



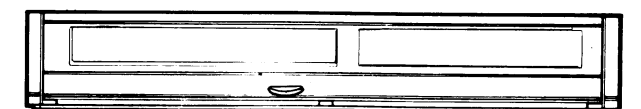
GoldStar

VHS VIDEO CASSETTE RECORDER
PAL

SERVICE MANUAL

CATION

BEFORE SERVICING THE CHASSIS, READ THE "SAFETY PRECAUTIONS", IN THIS MANUAL



MODEL: R-C400W



GoldStar

INTRODUCTION

This service manual provides a variety of service information. It contains the mechanical structure of the Video Cassette Recorder(VCR) together with mechanical adjustments and the electronic circuits in schematic form. This VCR was manufactured and assembled under our strict quality control standards and meets or exceeds industry specifications and standards.

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SECTION 2CABINET & MAIN FRAME
SECTION 3ELECTRICAL
SECTION 4MECHANISM
SECTION 5REPLACEMENT PARTS LIST

SECTION 1
SUMMARY

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IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, the products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

• Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the Δ symbol and shaded (■) parts are critical for safety. Replace only with specified part numbers.

Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Use Specified internal wiring. Note especially:

- 1) Wires covered with PVC tubing
- 2) Double insulated wires
- 3) High voltage leads

4. Use specified insulating materials for hazardous live parts. Note especially:

- 1) Insulation Tape
- 2) PVC tubing
- 3) Spacers
- 4) Insulation sheets for transistor

5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.(Fig. 1)

6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

7. Check that replaced wires do not contact sharp edged or pointed parts.

8. When a power cord has been replaced, check that 10-15Kg of force in any direction will not loosen it.(Fig. 2)

9. Also check areas surrounding repaired locations.

10. Products using cathode ray tubes (CRTs)

In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the parts specified. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

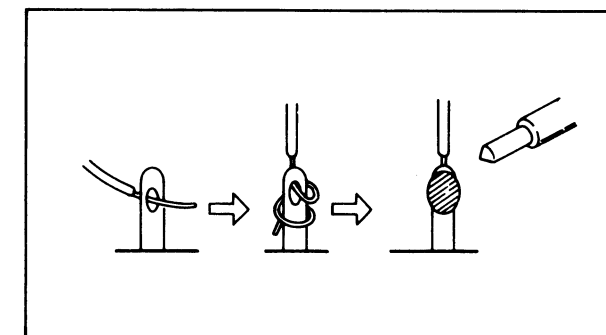


Fig. 1

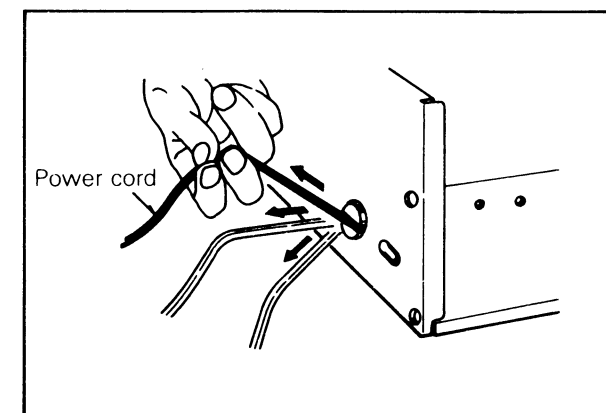


Fig. 2

SAFETY CHECK AFTER SERVICING

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

• Insulation resistance test

Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table below.

• Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set(RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table below.

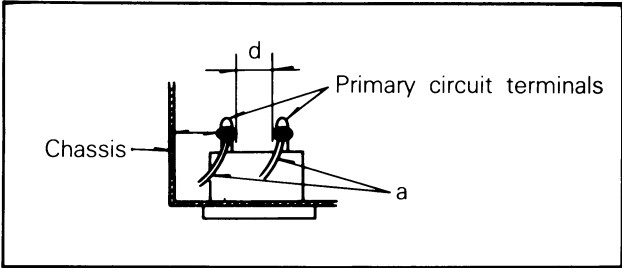


Fig. 3

• Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table below.

Table 1: Ratings for selected areas

| AC Line Voltage | Region | Insulation Reslstance | Dielectric Strength | Clearance Distance(d),(d) |
|-------------------------------|---------------------|-----------------------|---------------------|---------------------------------------|
| *110 to 130 V 200 to 240 V | Europe Australia | ≥10 MΩ/500 V DC | 4kV 1 minute | ≥6mm(d) ≥8mm(d) (a Power cord) |

*Class II model only.

Note. This table is unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

• Leakage Current test

Confirm specified or lower leakage current between B(earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.)

Measuring Method: (Power ON)
Insert load Z between B(earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure and following table.

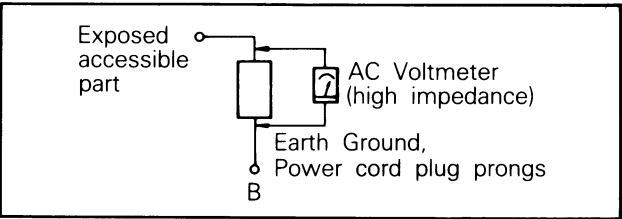


Fig. 4

Table 2: Leakage current ratings for selected areas

| AC Line Voltage | Region | Load Z | Leakage Current(i) | Earth Ground (B) to: |
|-----------------|-----------|--------|--------------------------------|-------------------------|
| 100 to 130 V | Europe | | i ≤ 0.7m A peak i ≤ 2m A dc | Antenna earth terminals |
| 200 to 240 V | Australia | | i ≤ 0.7m A peak i ≤ 2m A dc | Other terminals |

Note. This table is unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

FEATURES

- VHS Index Search System(VISS)
 - HQ, High Quality picture enhancement system improves image sharpness and detail
 - Double-Azimuth 4 head system
 - 8 event/1 year programmable timer with every recording
 - QSR, Quick Set Recording with stand-by (up to 9 hours)
 - Programmable channel memory with voltage frequency synthesized tuner(up to 40 positions)
 - Full-Function infrared remote control (OSD programming+LCD programming)
- Auto Power and Play Function
 - Automatic rewind
 - Freeze function(pause), Frame advance
 - Distinguished Editing functions
 - Tape Remaining time display function
 - Quick Start Function
 - Real Time Counter
 - Digital Auto Tracking System
 - Jet Search
 - FR Search Function
 - PAL B/G, SECAM D/K Dual System
 - Auto Head Cleaner

SPECIFICATIONS

- General :**

Power Source : AC 220V±10%, 50Hz

Power Consumption : Approx. 33Watts

Video Recording System : Double azimuth 2 heads, helical scanning system

Tape Speed : 23.39mm/sec(SP mode)
11.69mm/sec(LP mode)

Tape Format : Tape Width 1/2" (12.7mm high density tape VHS)

Maximum Recording Time : 4.2 hours at SP/8.4 hours at LP mode((with E-260 tape)

FF/Rewind Time : Less than 300secs(with E-180 cassette)

Dimensions(WXHXD) : 16.9" X 3.2" X 13.4" mm(430 X 82 X 340mm)

Weight : About 15.45lbs(7.0Kg)

Operating Temperature : 41°F-95°F(5°C-35°C)

Operating Humidity : 35%-80%

Timer : 24 hours display type
- Video :**

Television System : CCIR standard(625lines, 50 fields)

Recording Format : PAL/SECAM Colour signal

RF Reception : PAL/MESECAM(0st)

RF OUT : PAL, SECAM(B/G, D/K)

Input Level : PAL, SECAM(G, K)

Output Level : VIDEO IN(SCART-PIN type)
1.0Vp-p 75 ohm unbalanced
VIDEO OUT(SCART-PIN type)
1.0Vp-p 75 ohm unbalanced

Signal to Noise Ratio : More than 43dB

RF Modulator : UHF Channels 32~40(Adjustable)
- Audio :**

Input Level : AUDIO IN(SCART-PIN type)
-8dBm more than 50Kohm

Output Level : AUDIO OUT(SCART-PIN type)
-3dBm Less than 1Kohm

Audio Track : Monotrack type

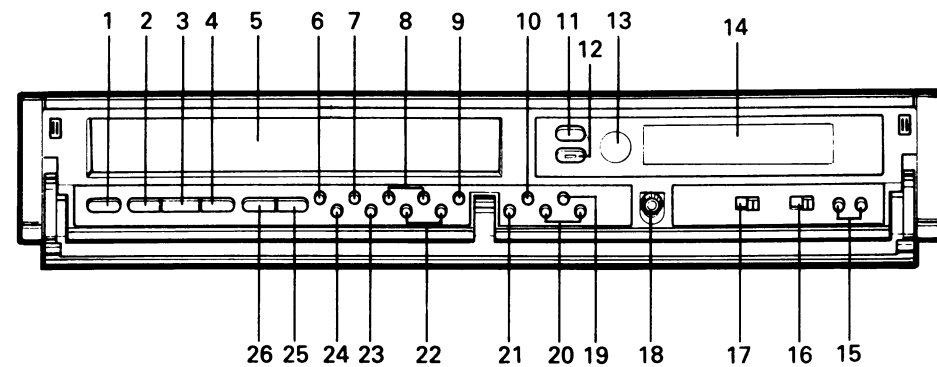
Audio Frequency Response : 100Hz-10KHz(+3/-3)

Signal to Noise Ratio : More than 40dB

* Designs and specifications are subject to change without notice.

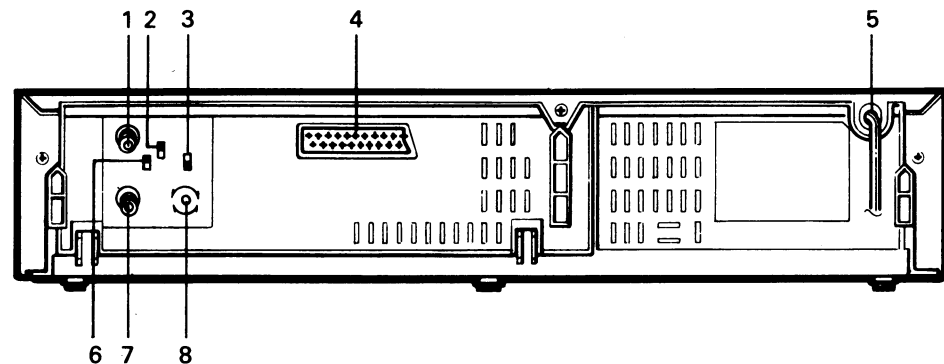
LOCATION OF CUSTOMER CONTROLS

FRONT



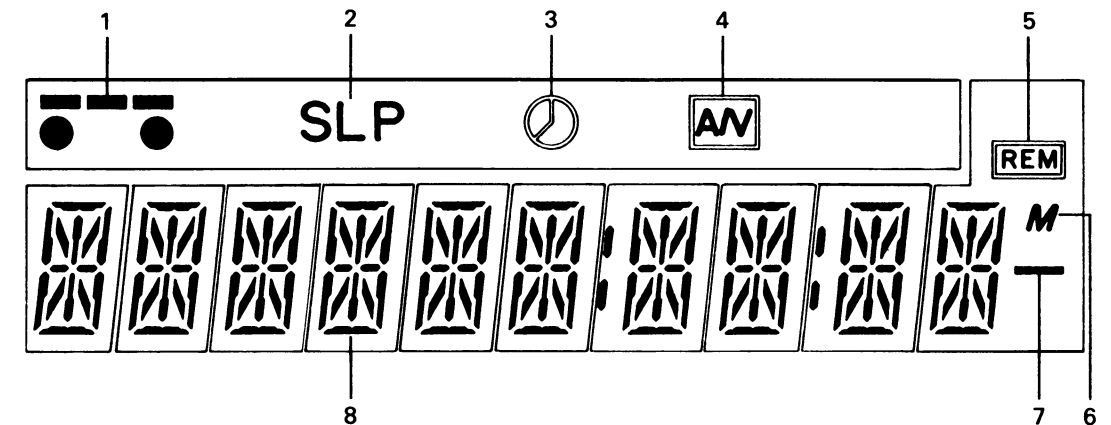
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|----------------------------------|------------------------------------------|
| 1. STOP BUTTON | 14. MULTI-FUNCTION DISPLAY |
| 2. REWIND/REVIEW VUTTONS | 15. CHANNEL PROGRAMME SELECTORS(- / +) |
| 3. PLAY(X2) BUTTON | 16. TAPE SELECT SWITCH |
| 4. FAST FORWARD/CUE BUTTON | 17. EDIT ON/ON SWITCH |
| 5. CASSETTE COMPARTMENT | 18. SHARPNESS CONTROL |
| 6. NOR/PRE BUTTON | 19. TAPE COUNTER RESET BUTTON |
| 7. AUTO SEARCH BUTTON | 20. MANUAL TRACKING CONTROL |
| 8. MFT(- / +) BUTTONS | 21. TAPE SPEED MODE SELECT BUTTON(SP/LP) |
| 9. TU/AV SELECT BUTTON | 22. CHECK(- / +) |
| 10. CLOCK/TAPE COUNTER/TAPE | 23. SKIP BUTTON |
| REMAING TIME SELECT BUTTON | 24. MEMO BUTTON |
| 11. EJECT BUTTON | 25. PAUSE/STILL BUTTON |
| 12. OPERATE BUTTON AND INDICATOR | 26. RECORD BUTTON |
| 13. REMOTE SENSOR WINDOW | |

REAR



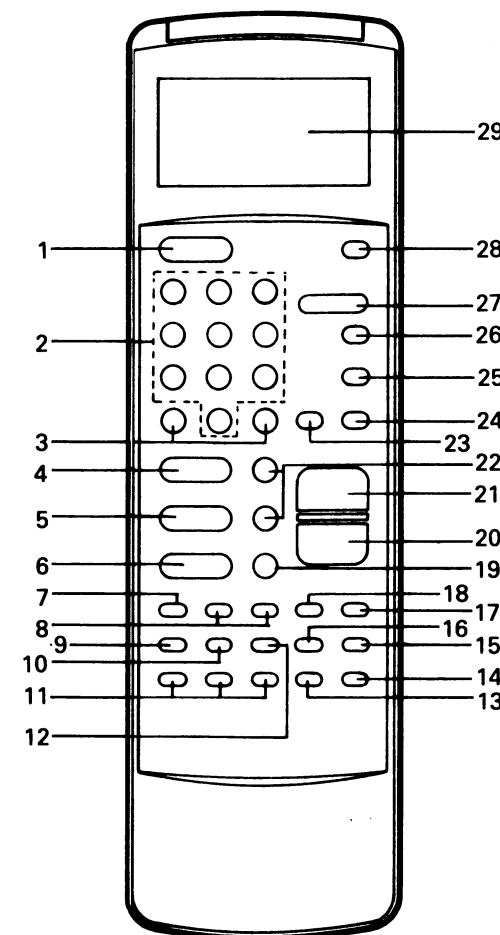
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|---------------------------|-----------------------------|
| 1. AERIAL INPUT | 5. MAINS LEAD |
| 2. SYSTEM SELECTOR SWITCH | 6. ATTENUATION(ATT.) SWITCH |
| (PAL B/G, SECAM D/K) | 7. RF OUTPUT |
| 3. TPSG ON/OFF SWITCH | 8. RF CHANNEL CONTROL |
| 4. EURO-AV SOCKET | |

MULTI-FUNCTION DISPLAY



- | | |
|--------------------------------|-----------------------------|
| 1. CASSETTE-IN INDICATOR | 5. TAPE REMAINING INDICATOR |
| 2. TAPE SPEED INDICATOR(SP/LP) | 6. MEMORY INDICATOR |
| 3. TIMER INDICATOR | 7. MINUS INDICATOR |
| 4. LINE INDICATOR | 8. FUNCTION INDICATORS |

REMOTE CONTROL



- | | |
|------------------------------------------|---------------|
| 1. OPERATE BUTTON | 29. LCD PANEL |
| 2. NUMBER BUTTONS "0" THROUGH "9" | |
| 3. CHANNEL PROGRAMME BUTTONS | |
| 4. FAST FORWARD/CUE BUTTON | |
| 5. REWIND/REVIEW BUTTON | |
| 6. PAUSE/STILL BUTTON | |
| 7. AUTO TRACKING BUTTON | |
| 8. V.LOCK/TRACKING(- / +) BUTTONS | |
| 9. VISS BUTTON | |
| 10. MARK BUTTON | |
| 11. SLOW(- / +) BUTTONS | |
| 12. EARSE BUTTON | |
| 13. QSR START BUTTON | |
| 14. QSR LENGTH BUTTON | |
| 15. CLOCK/TAPE COUNTER MEMORY/TAPE | |
| REMAINING SELECT BUTTON | |
| 16. TAPE COUNTER RESET BUTTON | |
| 17. TAPE SPEED MODE SELECT BUTTON(SP/LP) | |
| 18. TU/AV SELECTOR | |
| 19. FRAME ADVANCE BUTTON | |
| 20. STOP BUTTON | |
| 21. PLAY(X2) BUTTON | |
| 22. RECORD BUTTON | |
| 23. MENU BUTTON | |
| 24. TRANS BUTTON | |
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| 27. PROGRAMMING BUTTON | |
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SECTION 2

CABINET & MAIN FRAME

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CABINET DISASSEMBLY

1. Top Case, Bottom Cover

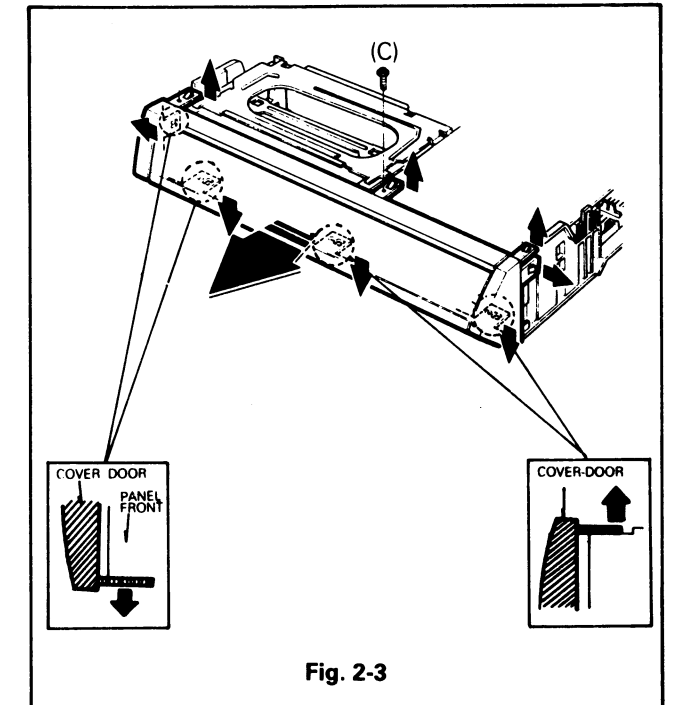
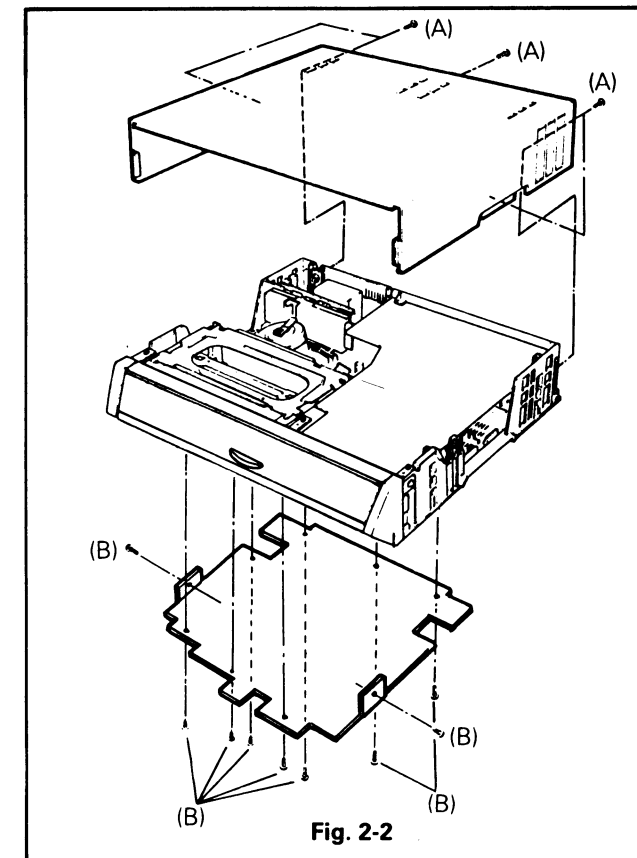
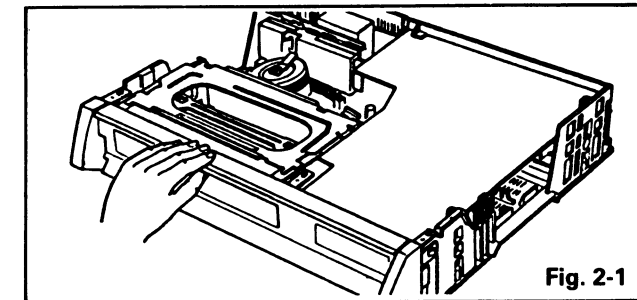
- Remove 5 screws(A). (See Fig. 2-2)
- Hold the back of Top Case and lift it up slightly backward to remove it.
- Remove 9 screws(B) to remove the Bottom Cover. (See Fig. 2-2)

2. Front Panel

- Remove the Top Cover. (See Fig. 2-2)
- Remove the Bottom Cover. (See Fig. 2-2)
- Remove 1 screws(C) on the top of the Front Panel.
- Remove the stoppers on the top of the Front Panel.
- Remove the stoppers on the bottom of the Front Panel.

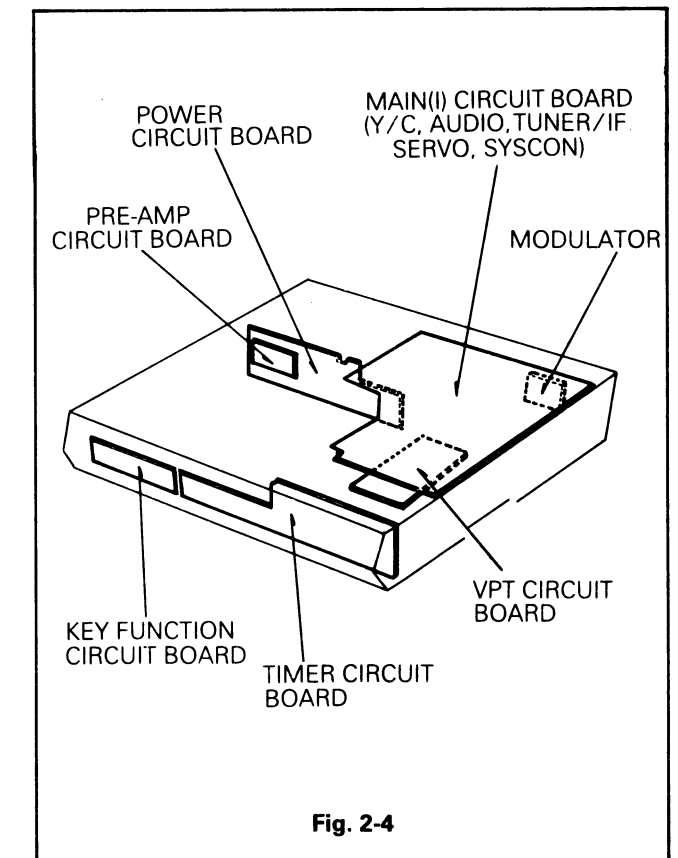
* Caution

When reassemble the Front Panel, assemble it in condition of inserting the Door Cassette inside, as shown in Fig. 2-1.



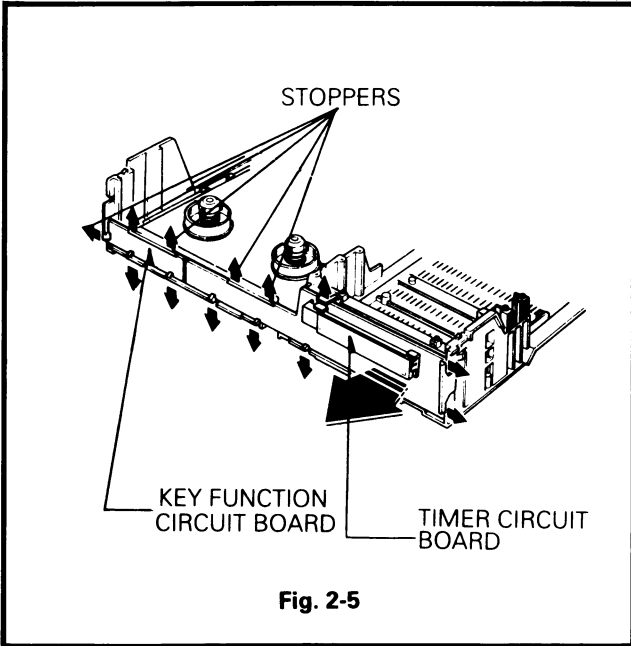
CIRCUIT BOARD DISASSEMBLY

1. Circuit Board Arrangement



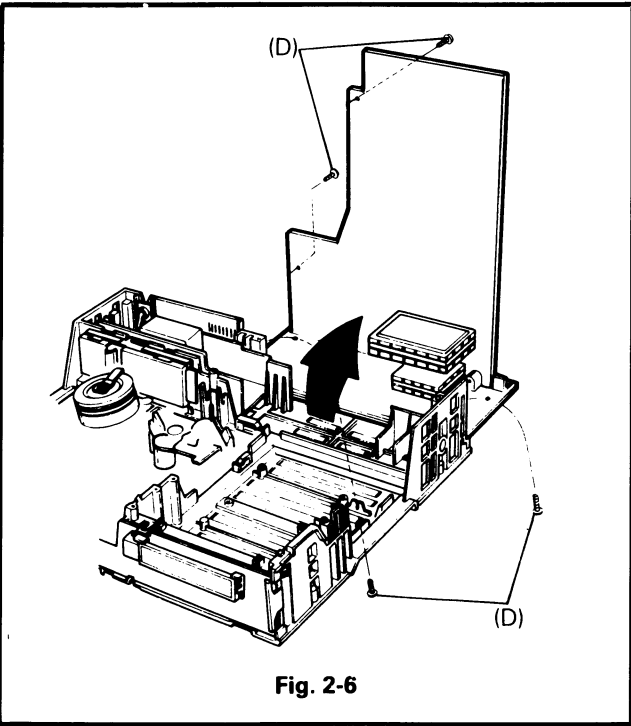
2. Timer/Key Function Circuit Board

- A. Pull the P.C.Board toward you while pressing 5 stoppers in the direction of the arrows to disengage, and remove the P.C.Board. (See Fig. 2-5)
- B. Remove the connector for complete removal.



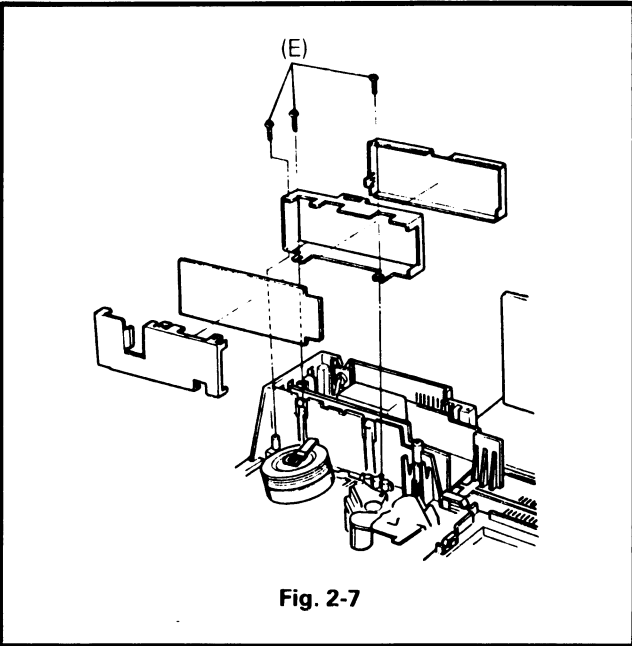
3. Main Circuit Board(I)

- A. Remove 4 screws(D).
- B. Press the stopper in the direction of the arrow to disengage and lift the rear part up and pull the P.C.Board backward.
- C. Remove the connector for complet removal.



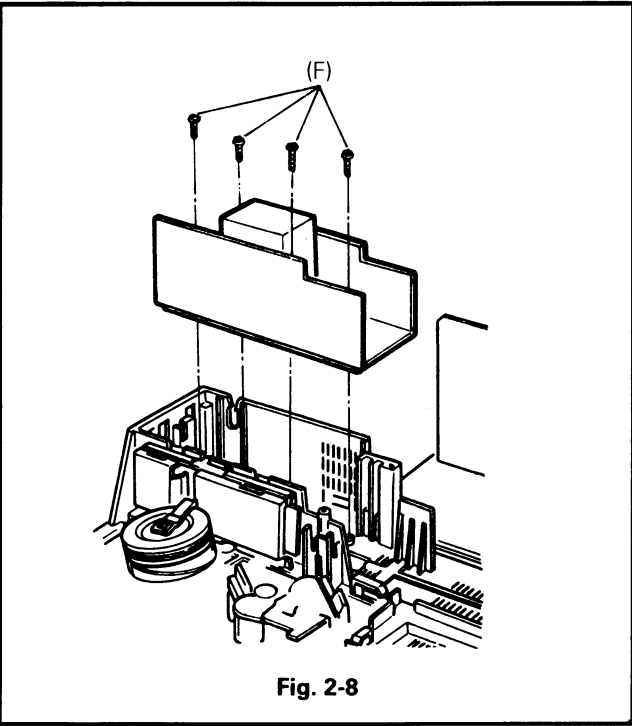
4. Pre-Amp Circuit Board

- A. Remove 3 screws(E).
- B. Remove Pre-Amp Package from Main frame.
- C. Remove bracket Pre-Amp from Pre-Amp package.
- D. Remove Pre-Amp Circuit Board from Pre-Amp package.



5. Power Circuit Board

- A. Remove Main(I) P.C.Board.(See Fig. 2-6)
- B. Remove 4 screws(F).



EXPLODED VIEWS

1. Cabinet & Main Frame Section

NOTE) 1) Refer to "SECTION 5 REPLACEMENT PARTS LIST" in order to look for the part number of each part.
2) C.B.A is the abbreviation of Circuit Board Assembly.

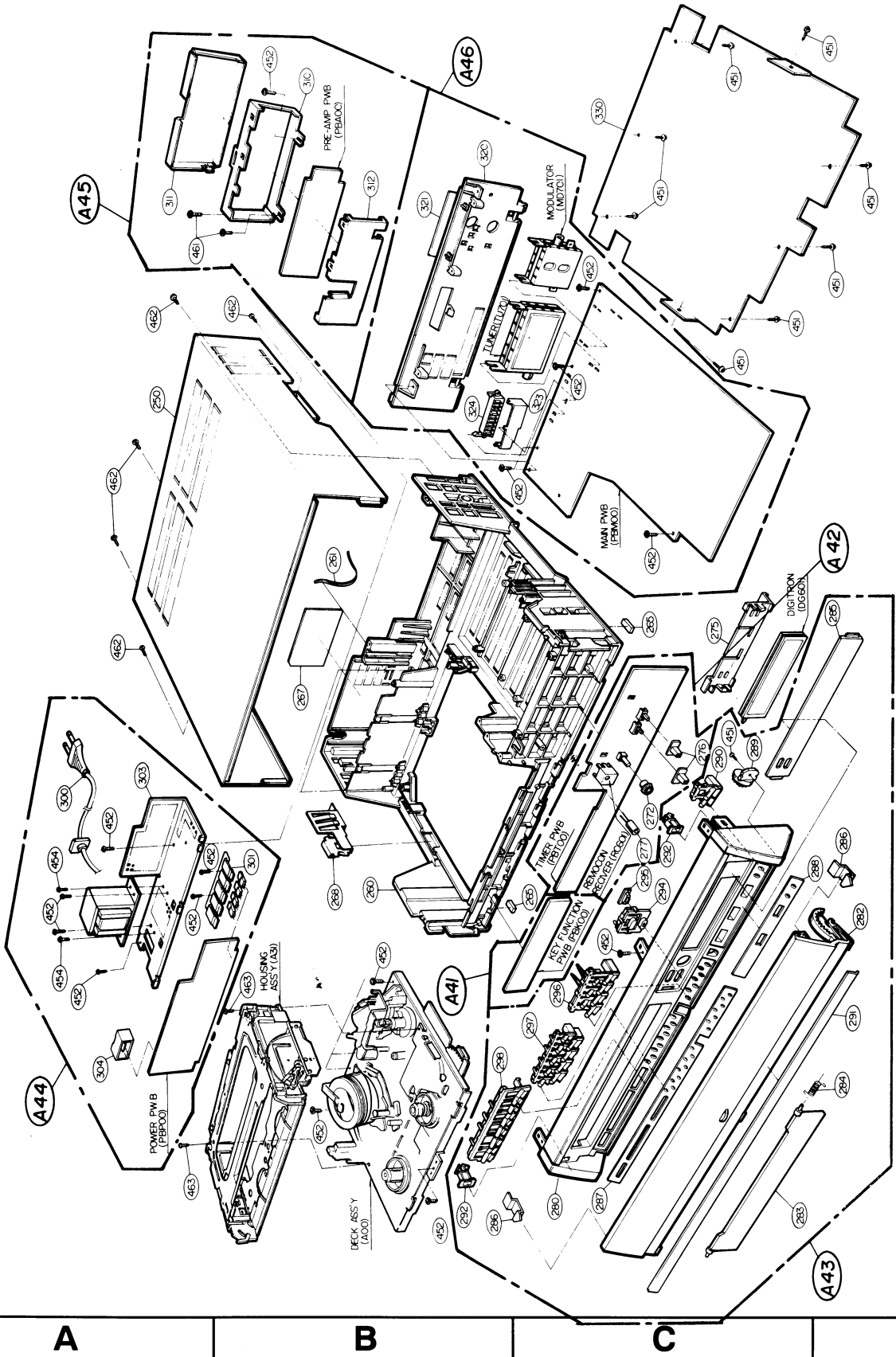
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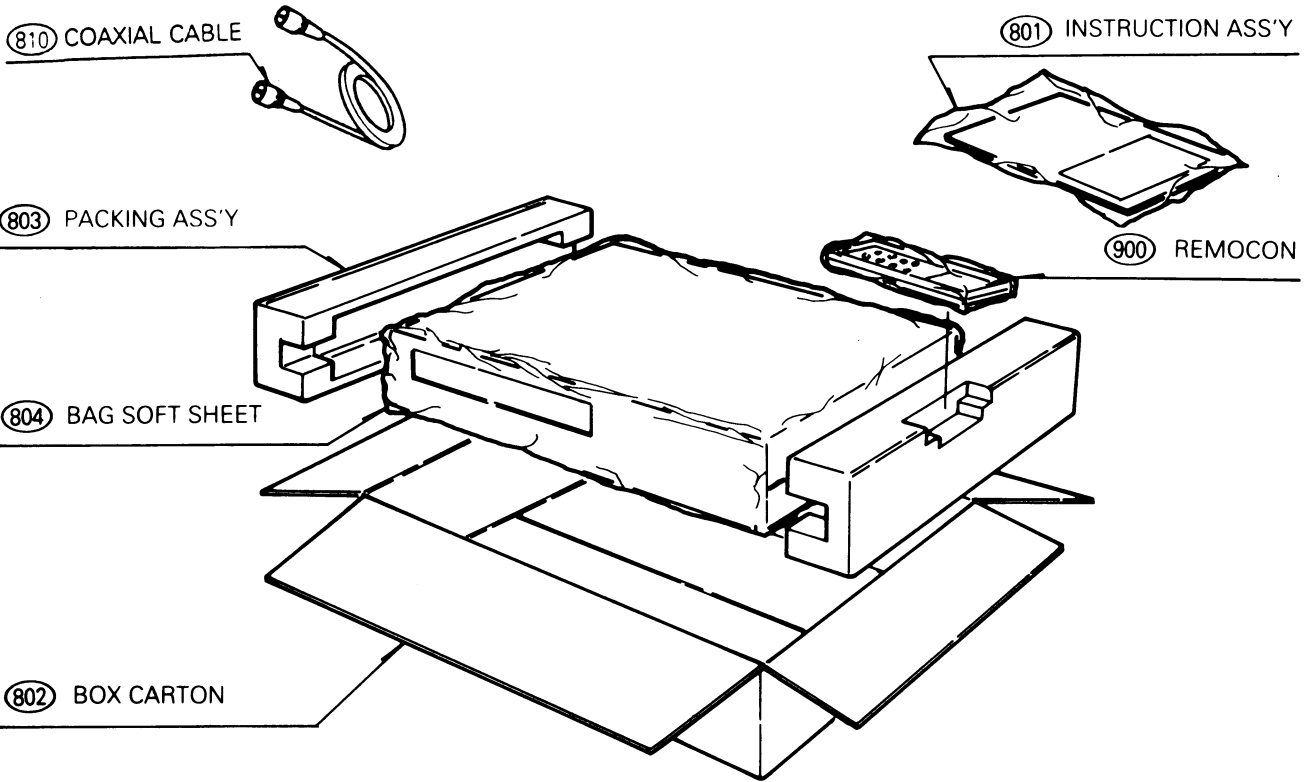
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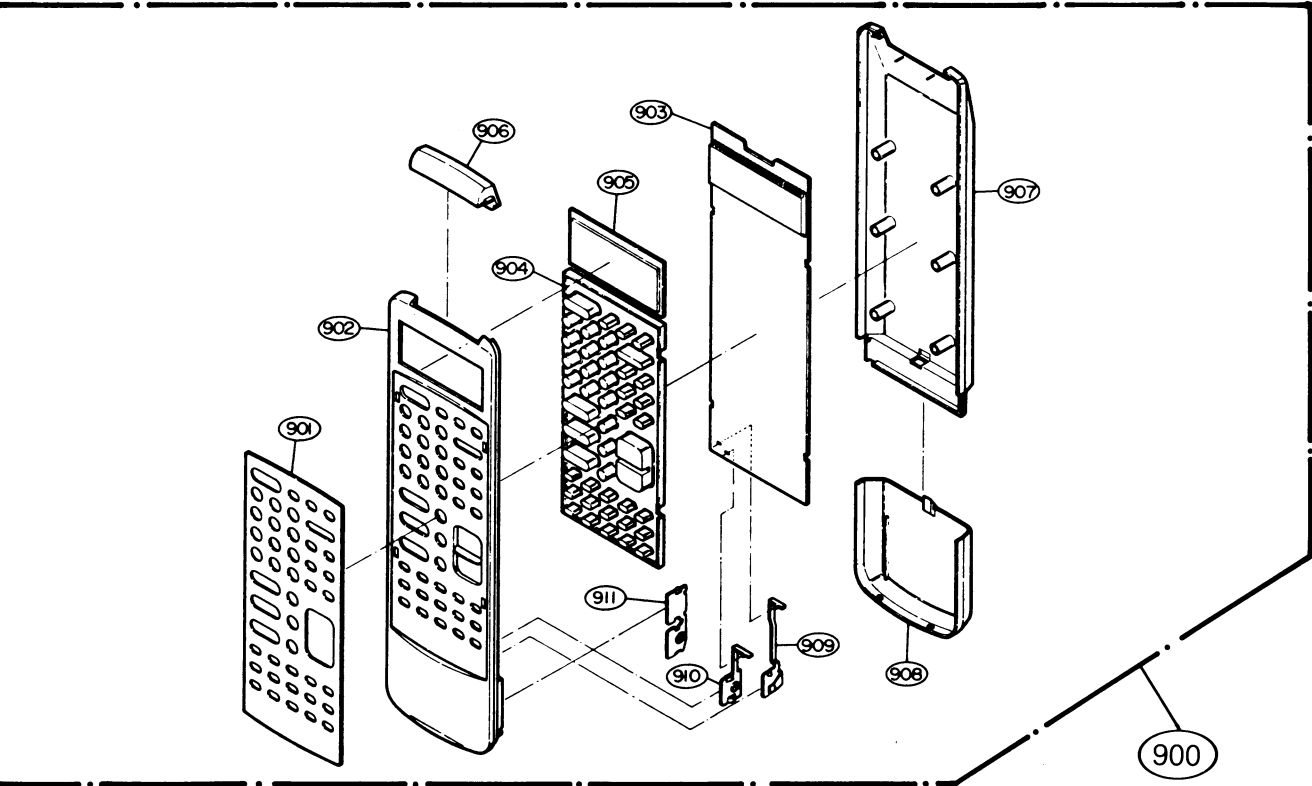
2. Packing Accessory Section

NOTE) Refer to "SECTION 5 REPLACEMENT PARTS LIST" in order to look for the part number of each part.



3. Remote Control Section

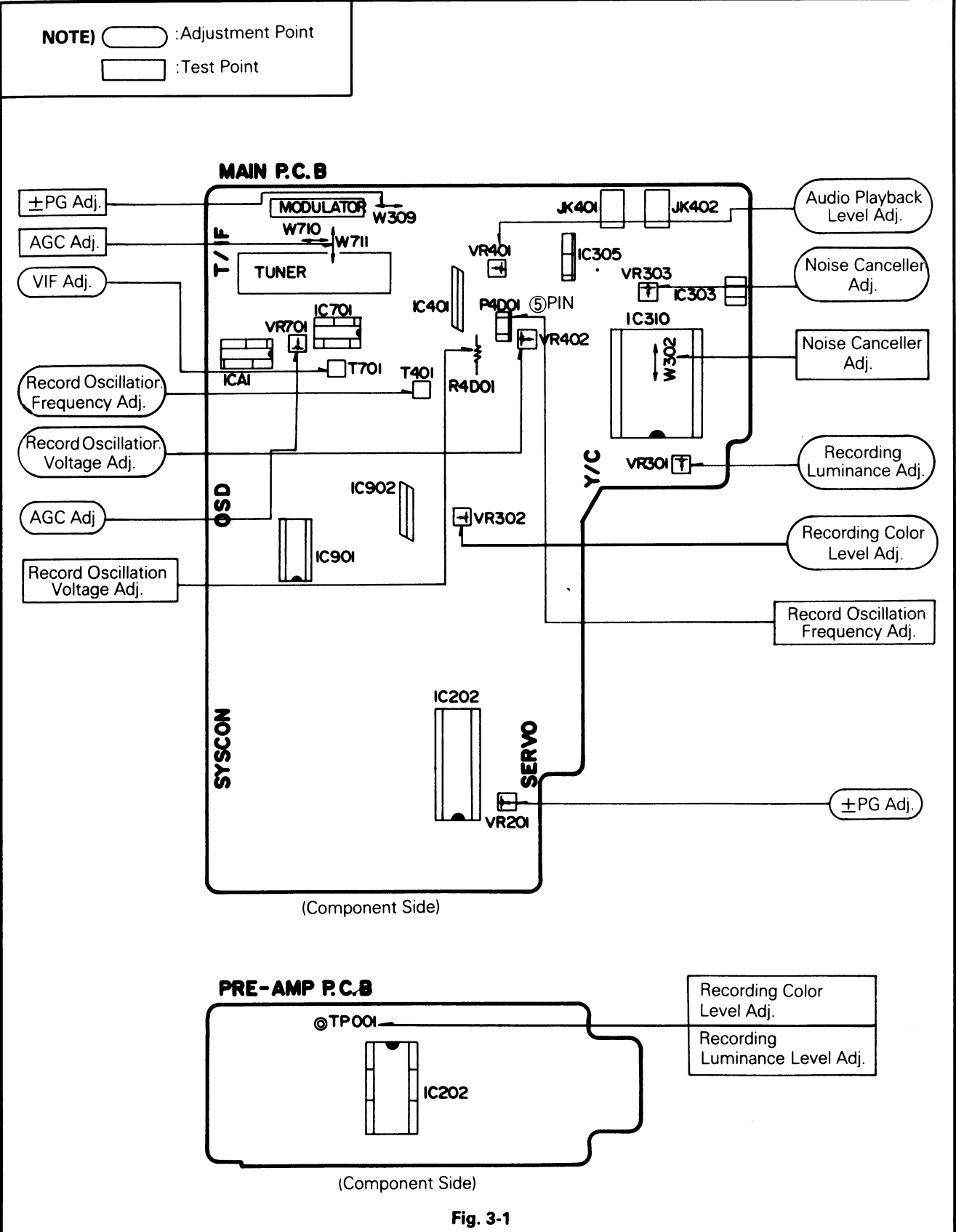
NOTE) Refer to "SECTION 5 REPLACEMENT PARTS LIST" in order to look for the part number of each part.



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ELECTRICAL ADJUSTMENT POINTS ARRANGEMENT



ELECTRICAL ADJUSTMENT PROCEDURES

● Electronic Test Equipment :

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none">• Oscilloscope• Video Signal Generator• Modem Tester• Audio Signal Generator• Level Meter• Frequency Counter | <ul style="list-style-type: none">• D.C Power Supply• PAL B/G Signal OSD• Sweep & Marker OSC• Monitor Scope• Digital Multimeter• Digital Voltmeter |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

1. Servo Circuit

1) ±PG Adjustment

| MODE | SPECIFICATION | ADJUSTMENT POINT | TEST POINT |
|----------|-----------------|------------------|------------------------------|
| Playback | $6.5H \pm 0.5H$ | VR201 | W309 (VIDEO OUT TERMINAL) |

A. Purpose :
For phase dividing video A/B head with 180° and tracing each track exactly to meet head switching point with VHS SPEC.

B. Procedure :

- Set PAL/SP test tape to playback.
- Connect CH-1 terminal of oscilloscope to W900(H.SW) and CH-2 terminal to W309.(Video Out terminal)
- Adjust VR201 so that the distance from A(B) head selection point of H.SW signal to the starting point of vertical synchronized signal is 6.5H(416 μ sec, 1H=64 μ sec) to trigger the complex video signal of CH-2 to CH-1 H.SW.
- The conversion of A/B Head SW signal uses the Polarity Invert Knob of oscilloscope.

Reference :

- ±PG adjustment is practiced in the state of the RF level being maximum and Servo System locking.
- The location difference of A/B Head adjustment should be within $\pm 0.5H(32 \mu \text{ sec})$.
- The Adjustment Spec. and the Practice difference should be within $\pm 0.5H(32 \mu \text{ sec})$.
- Oscilloscope and VCR set should connect GND.

Waveform

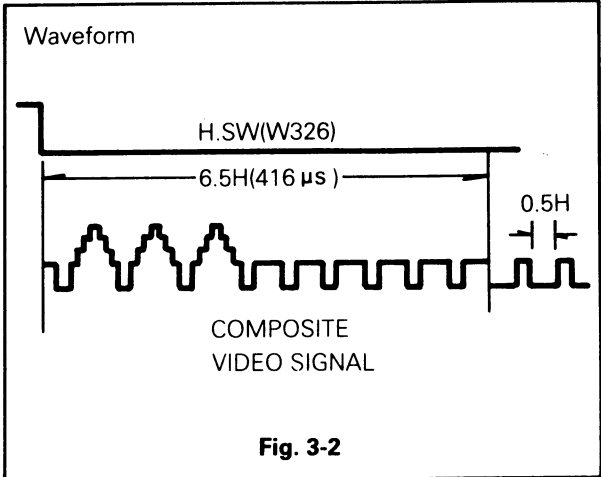


Fig. 3-2

2. Y/C Circuit

1) Noise Canceller Adjustment

| MODE | SPECIFICATION | ADJUSTMENT POINT | TEST POINT |
|----------|--------------------|------------------|------------|
| Playback | $0.4V \pm 10mVp-p$ | VR303 | W302 |

- Connect the Video Signal Generator to Video in terminal.
- Connect CH-1 terminal of oscilloscope to W302.
- Set PAL SP test tape to playback. (with 100% white signal)
- Adjust VR303 so that Video waveform is $0.4V \pm 10mVp-p$.

Waveform

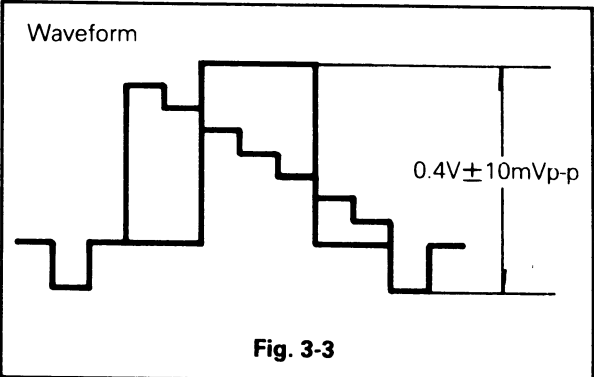


Fig. 3-3

2) Recording Color Level Adjustment

| MODE | SPECIFICATION | ADJUSTMENT POINT | TEST POINT |
|-----------------|-------------------|------------------|--------------------------------|
| Record(LP mode) | $80mV \pm 5mVp-p$ | VR302 REC-C | Pre-Amp(TP001) REC. Current |

A. Procedure :

- Connect the Video Signal Generator to Video in terminal.
- Connect CH-1 terminal of oscilloscope to TP2 of Pre-Amp Circuit Board.
- Adjust VR302 so that the minimum luminance FM output is $80mV \pm 5mVp-p$

Waveform

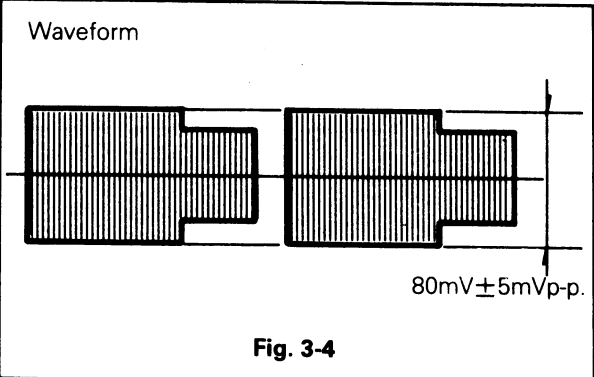


Fig. 3-4

3) Recording Luminance Level Adjustment

| MODE | SPECIFICATION | ADJUSTMENT POINT | TEST POINT |
|-----------------|--------------------|------------------|--------------------------------|
| Record(LP mode) | $1.6V \pm 10mVp-p$ | VR301 REC.-Y | Pre-Amp(TP001) REC. Current |

A. Procedure :

- Connect the Video Signal Generator to Video in terminal.
- Connect CH-1 terminal of oscilloscope to TP2 of Pre-Amp Circuit Board.
- Adjust VR301 so that the luminance FM output is $1.6V \pm 10mVp-p$.

Waveform

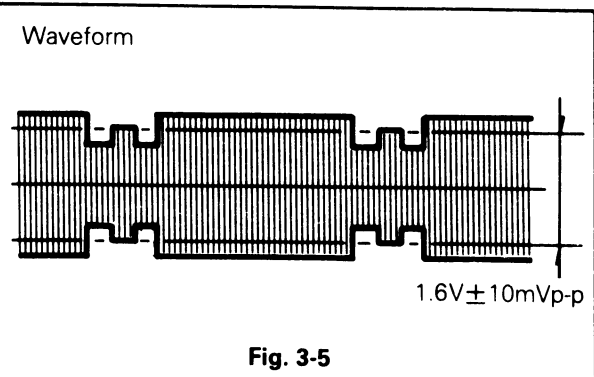


Fig. 3-5

3. Audio Circuit

1) Audio Playback Level Adjustment

| MODE | SPECIFICATION | ADJUSTMENT POINT | TEST POINT |
|----------|-------------------------------|------------------|----------------|
| Playback | $-3 \pm 1.5\text{dBm(Scart)}$ | VR401 | Audio Out Jack |

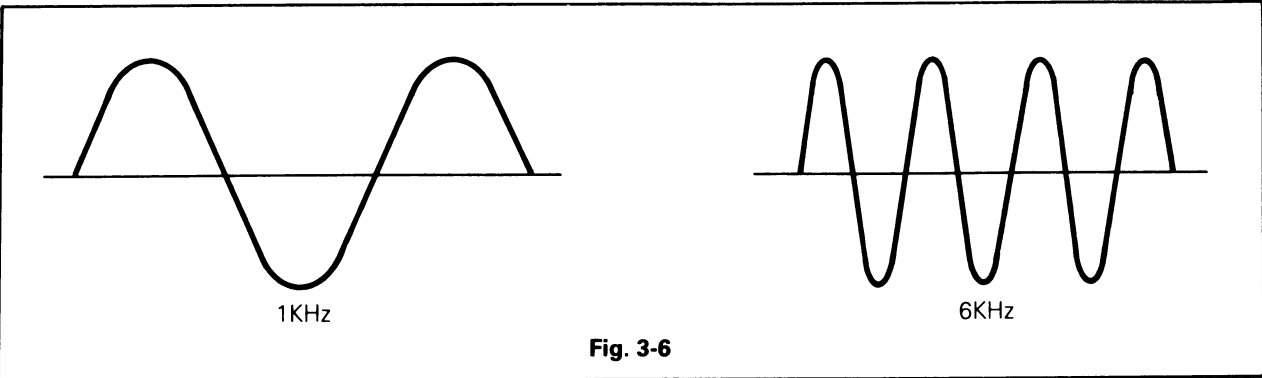
A. Purpose: This is for adjusting Audio playback level to specification.

B. Procedure

a) Connect the Level Meter to Audio Out Terminal(Scart Pin).

b) Adjust VR401 so that 1KHz output level of Level Meter is $-3 \pm 1.5\text{dBm(Scart)}$, after playing the standard tape.

c) At this time, make 6KHz level is maximum to adjust R/P Head azimuth.



1KHz

6KHz

Fig. 3-6

2) Record Oscillation Frequency Adjustment

| MODE | SPECIFICATION | ADJUSTMENT POINT | TEST POINT |
|--------|--------------------------------|------------------|---------------|
| Record | $70\text{KHz} \pm 5\text{KHz}$ | T401 | ⑤pin of P4D01 |

A. Purpose:
This is for adjusting the oscillation frequency to specification in recording.

B. Procedure:

a) Connect CH-1 terminal of oscilloscope to P4D02.

b) Connect the Frequency counter to P4D02.

c) Confirm that the oscillation frequency in recording is $70\text{KHz} \pm 5\text{KHz}$ to connect the frequency counter terminal to TP401.

d) At this time, adjust OSC coil(T401) and make the oscillation frequency fit to $70\text{KHz} \pm 5\text{KHz}$.

3) Record Oscillation Voltage Adjustment

| MODE | SPECIFICATION | ADJUSTMENT POINT | TEST POINT |
|--------|---------------|------------------|---------------------|
| Record | 2.3mV RMS | VR402 | R4D01 Both terminal |

A. Purpose :
This is for adjusting the bias current to specification in recording.

B. Procedure:

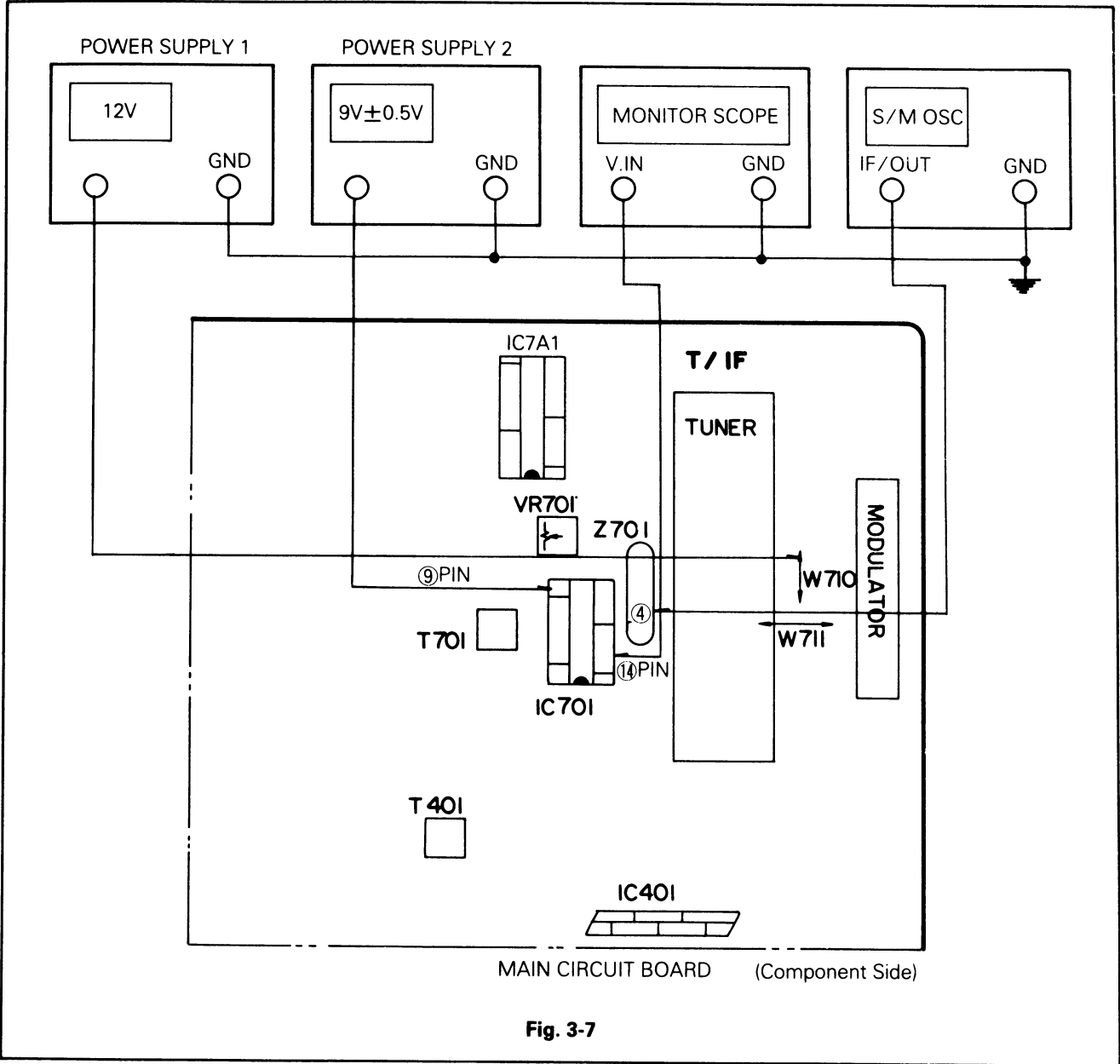
a) Connect the Level Meter terminal to both terminals of R4D01.

b) Confirm that the oscillation voltage is 2.3mV RMS to connect the Level Meter terminal to both terminals of Lug pin R/P head PWB during recording.

c) At this time, adjust VR402 and make the oscillation voltage fit to specification(2.3mV RMS)

4. Tuner/IF Circuit

1) Adjustment Points and Connection



* Caution in testing

- When practicing this adjustment, adjust after more than 20 minutes with VCR set turning on.
- Adjust after completing itself test of measuring apparatus.
- Sweep OSC Marker frequency is followed by Table 1.
- IF are adjusted and Tuner is not

* Abbreviation

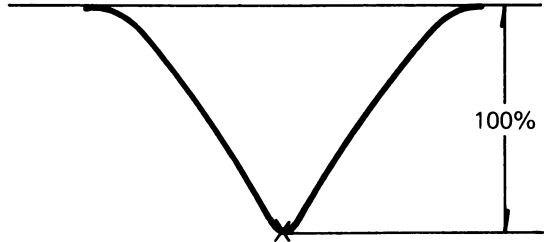
- APC: Adjacent Picture Carrier
- SIF: Sound Intermediate Frequency
- CIF: Color Intermediate Frequency
- CEN: Center Frequency
- PIF: Picture Intermediate Frequency
- ASC: Adjacent Sound Carrier

〈Table 1〉 Frequency Table

(Unit : MHz)

| | 1 | 2 | 3 | 4 | 5 | 6 |
|-------------|-------|-------|-------|-------|-------|-------|
| FREQUENCY | 32.40 | 33.40 | 34.47 | 36.00 | 38.90 | 40.40 |
| MARKER NAME | APC | SIF | CIF | CEN | PIF | ASC |

2) VIF Adjustment

| MODE | SPECIFICATION | ADJUSTMENT POINT | TEST POINT |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------|--------------|
| EE(without signal) | Refer to waveform | T701 | See Fig. 3-7 |
| <div><div>A. Procedure :<ul style="list-style-type: none">a) Attenuate the sweep OSC gain by 25dB~30dB ATT.(output gain 80~90dBu)b) Apply DC 12V to W710(power supply 1).c) Apply DC 9V±0.5V to the ⑨pin of IC701.(power supply 2)d) Adjust T701 so that monitor waveform is as shown in Fig. 3-8.</div><div><div>Waveform</div><div>100%</div><div>P.C.(38.9MHz)</div><div>Fig. 3-8</div></div></div> | | | |

3) AGC Adjustment

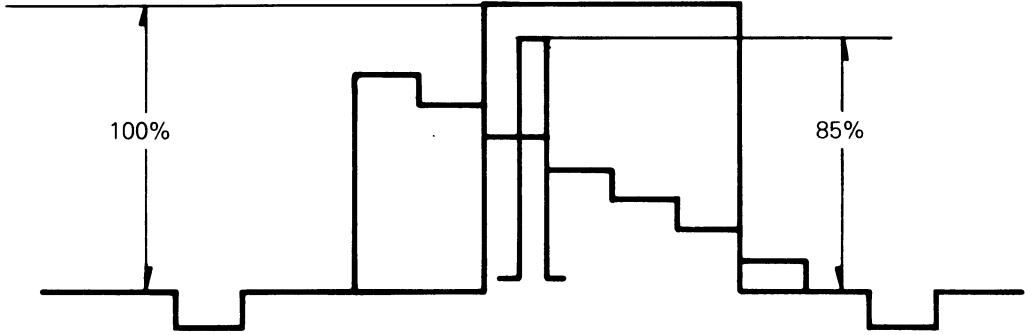
| MODE | SPECIFICATION | ADJUSTMENT POINT | TEST POINT |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------|------------|
| EE(with signal) | 4.6V±0.1V | VR701 | W711 |
| <div><div>A. Procedure :<ul style="list-style-type: none">a) Be tuning 9CH(strength of electric field 70dB±1dB) fine.b) Connect the Digital Voltmeter to W711.c) Adjust VR701 so that the digital voltmeter is 4.6V±0.1V.</div><div>Reference : Maintain the input gain in adjusting AGC faithfully.</div></div> | | | |

4) SIF Adjustment

| MODE | SPECIFICATION | ADJUSTMENT POINT | TEST POINT |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|------------------|-----------------------------|
| CH(normal reception) | Audio Distortion : low price | T702 | Audio output (SCART or RCA) |
| <div><div>A. Procedure :<ul style="list-style-type: none">a) Be tuning PAL B/G CH(strength of electric field : more than 60dBu) fine.b) Adjust T702(detect coil) so that Audio distortion is low price.</div></div> | | | |

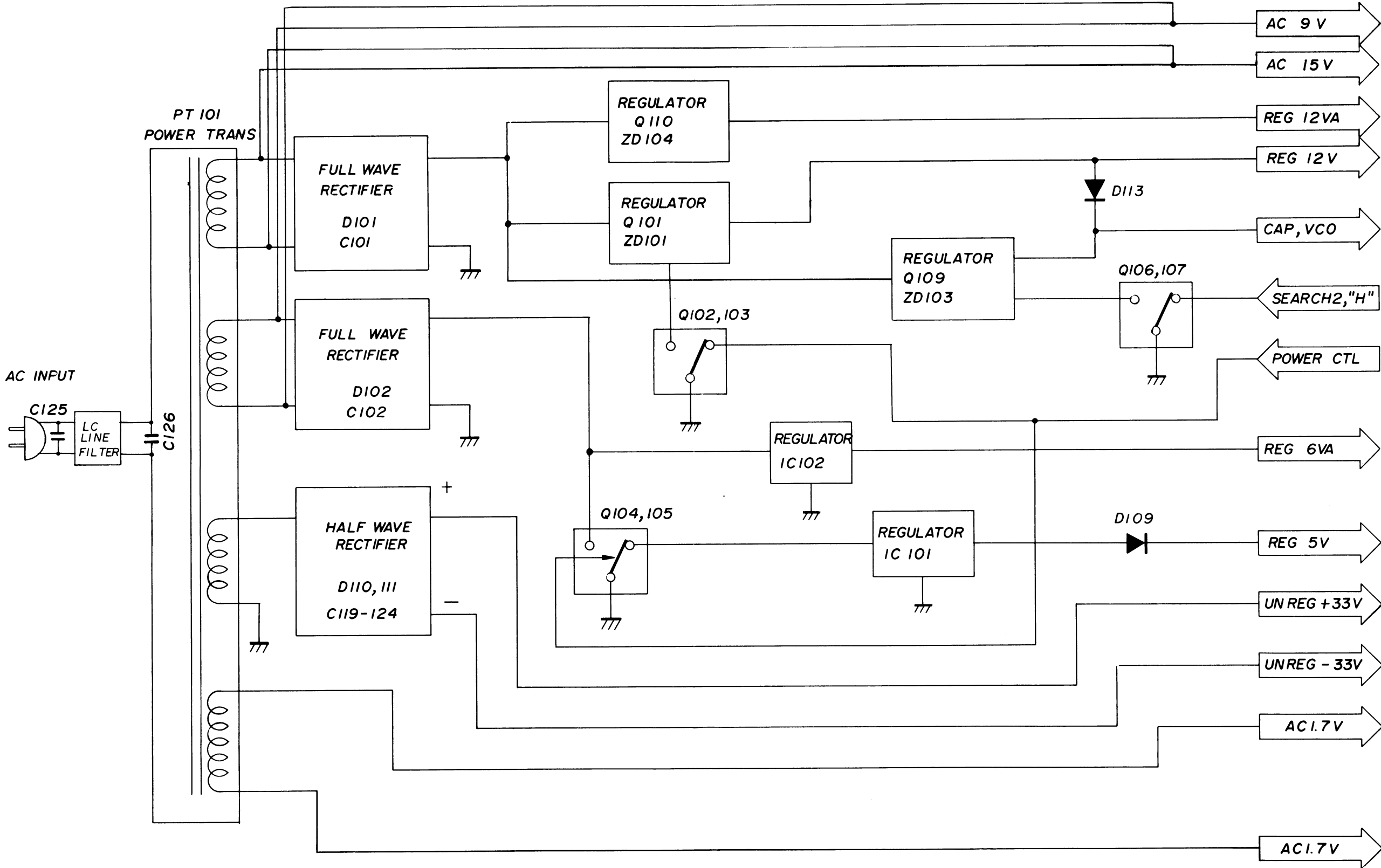
5. Title Circuit

1) Title Character Level Adjustment

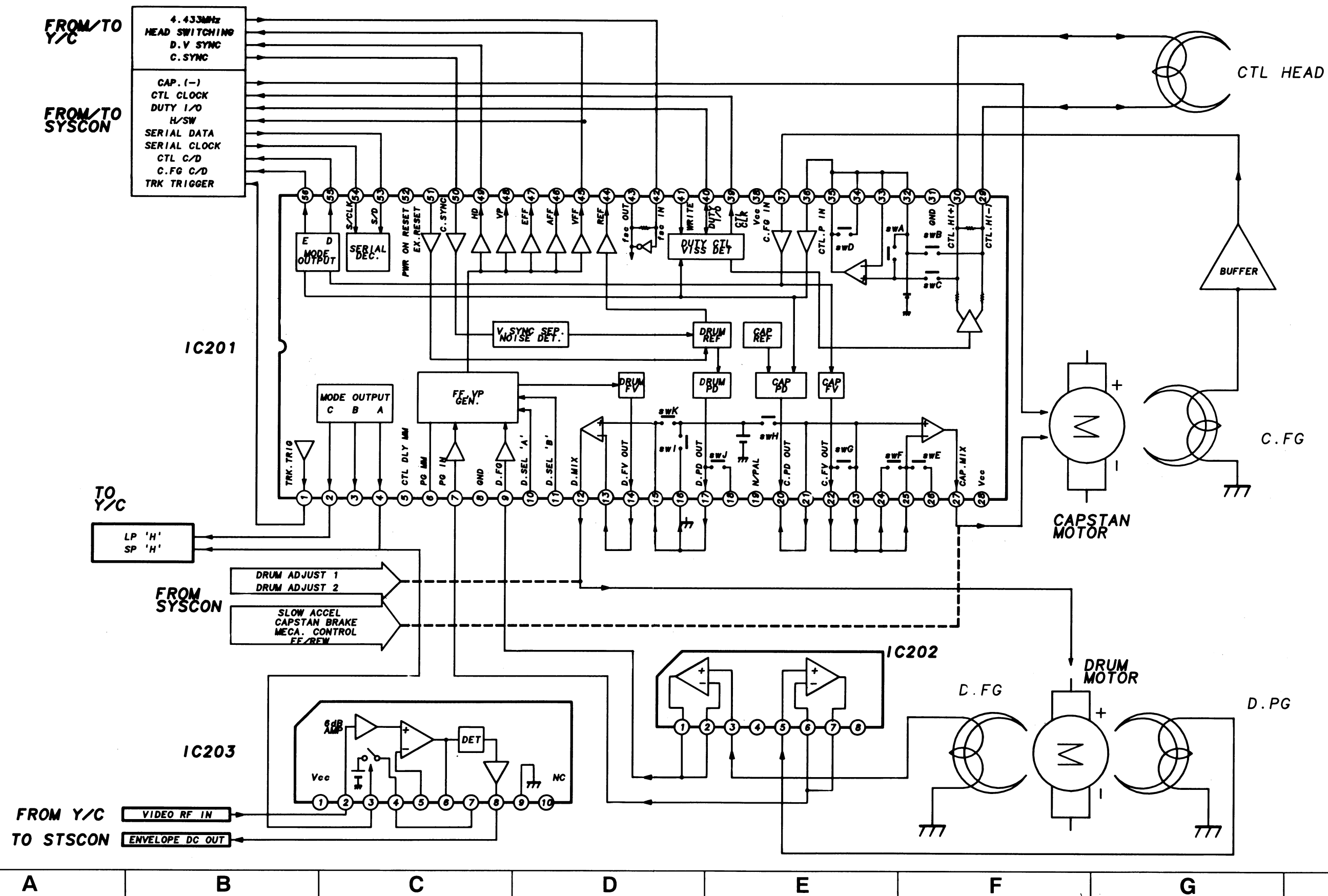
| MODE | SPECIFICATION | ADJUSTMENT POINT | TEST POINT |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------|------------|
| EE(Reception Tuner) | 85% white | VR901 | W999 |
| <div><div>A. Purpose Maintain light of title character to the best condition in recording.</div><div>B. Procedure :<ul style="list-style-type: none">a) Receive signal with 100% white signal.b) Connect the probe of scope to W999.c) Adjust VR901 so that the level of character is same as the level of 85% white signal.(standard 100% white signal)</div></div> | | | |
| <div><div>Waveform</div><div>100%</div><div>85%</div><div>Fig. 3-9</div></div> | | | |

BLOCK DIAGRAMS

1. Power Block Diagram



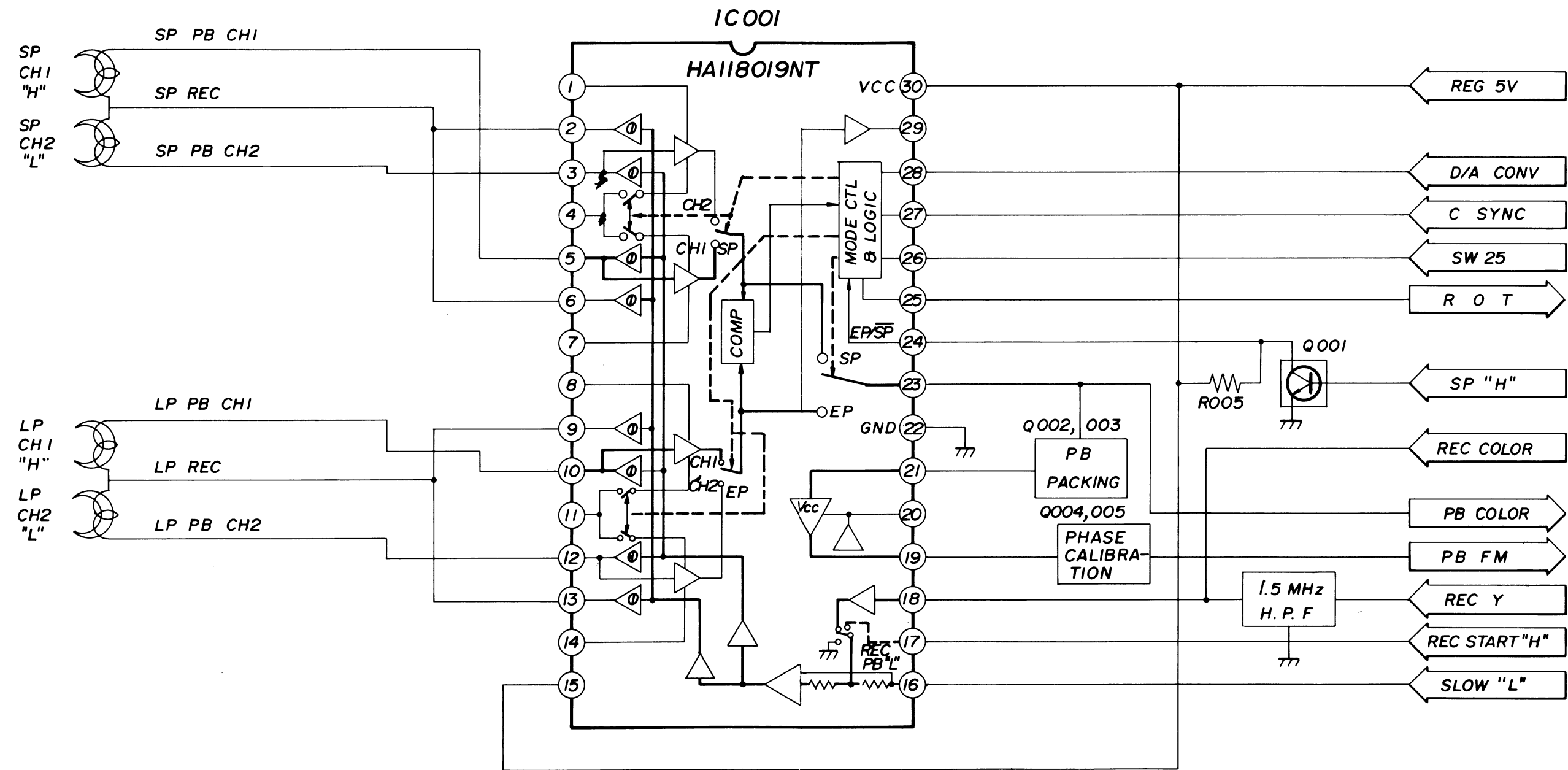
2. Servo Block Diagram



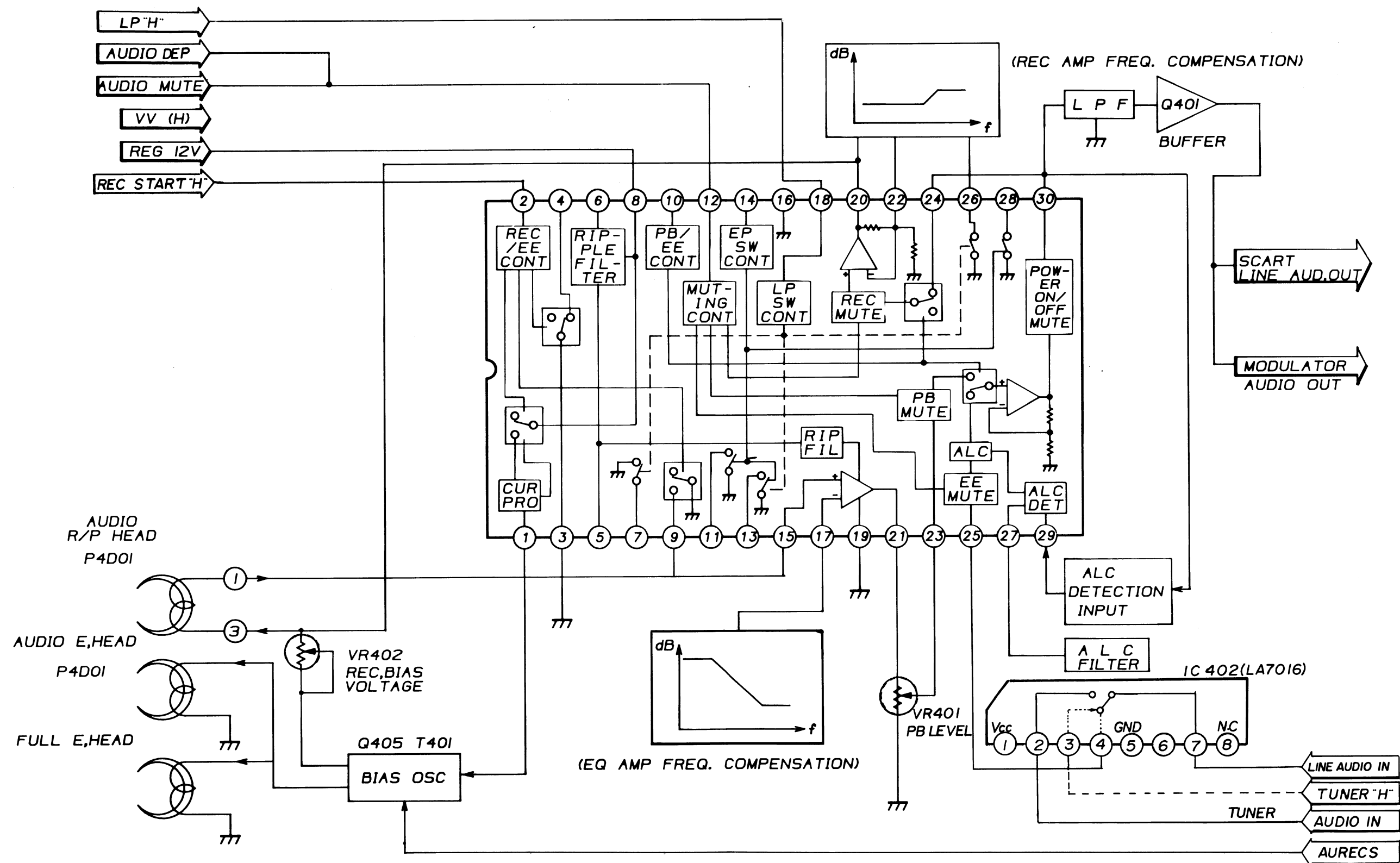
5



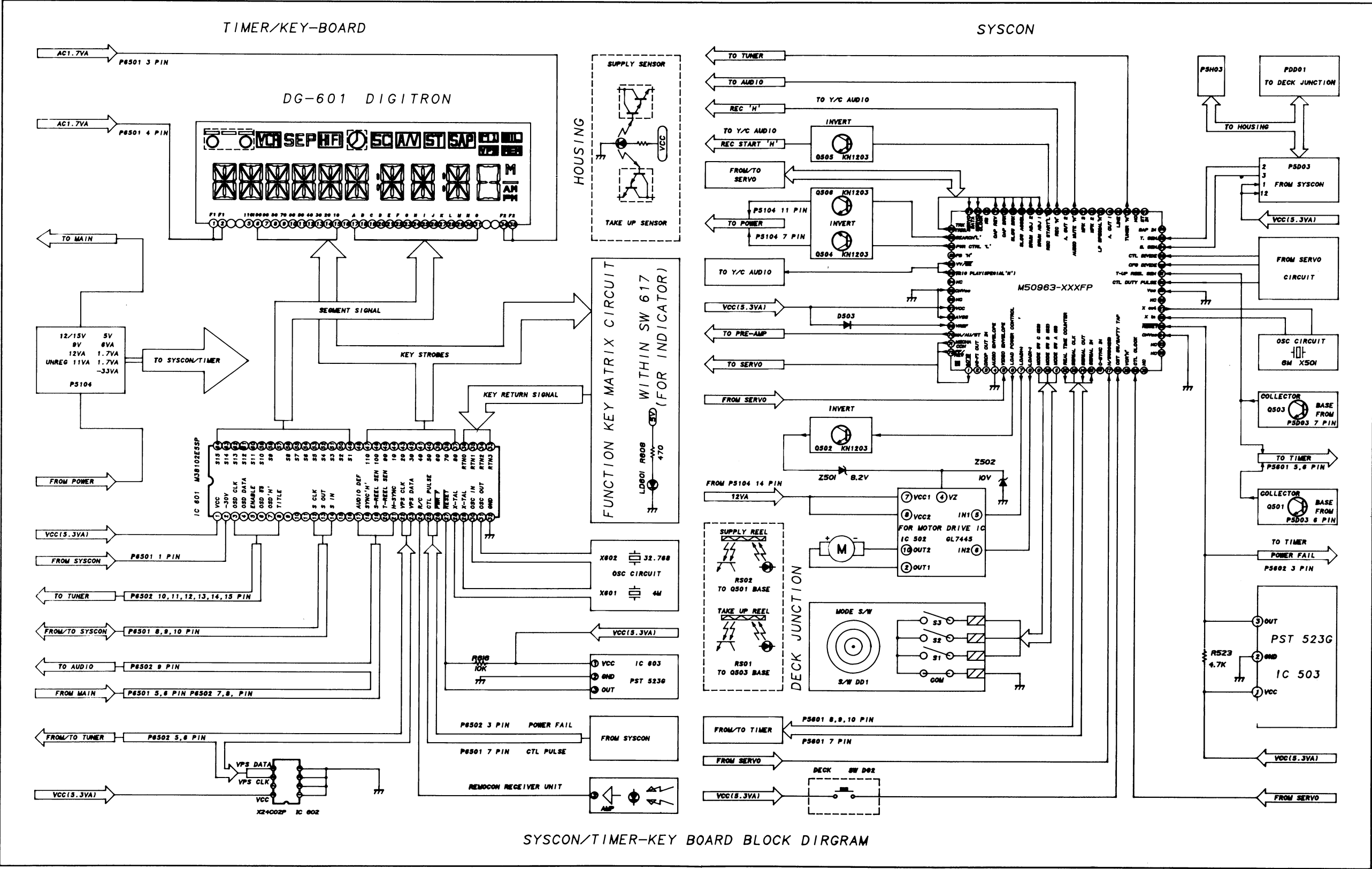
4 Pre-Amp Block Diagram



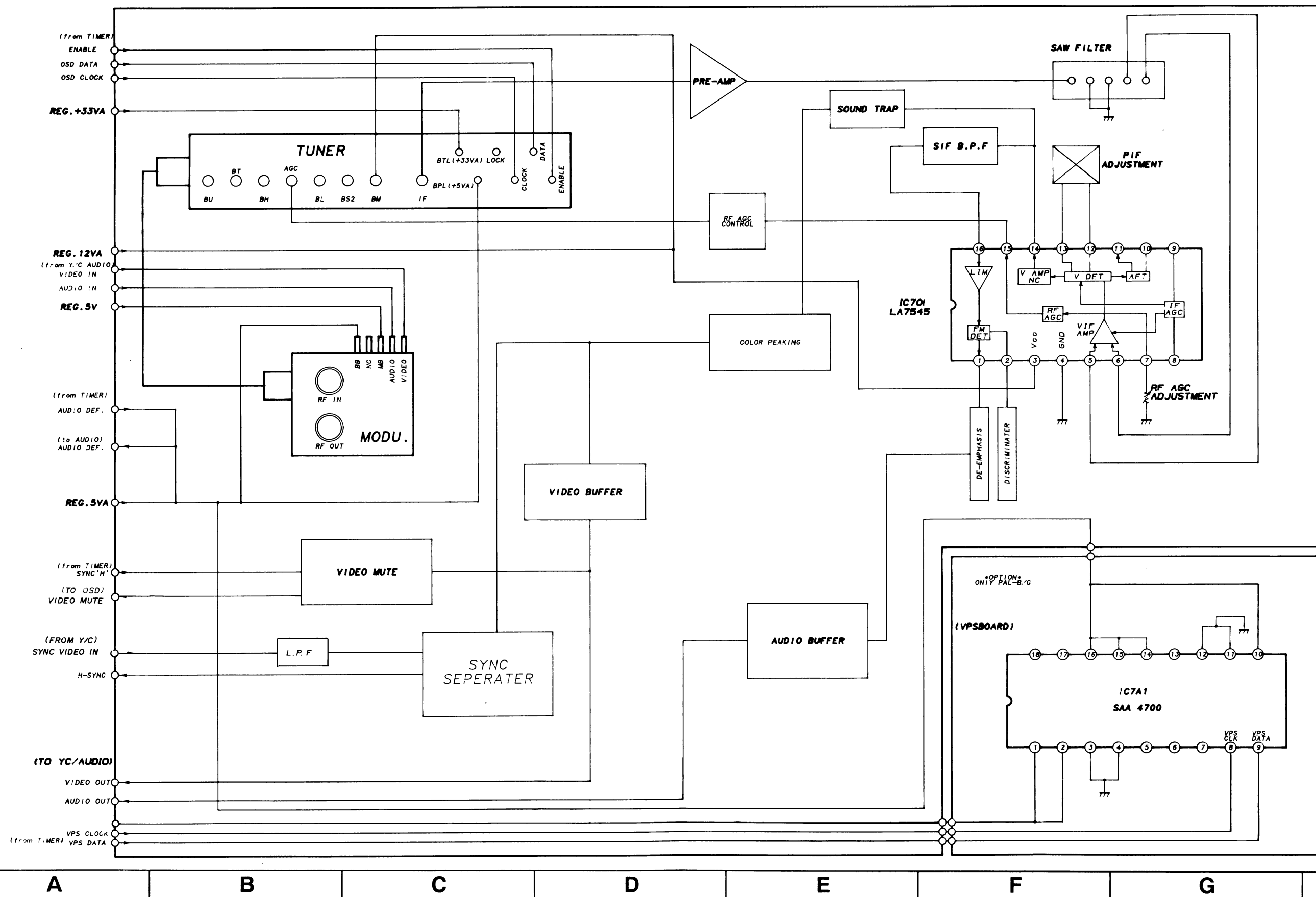
5. Audio Block Diagram



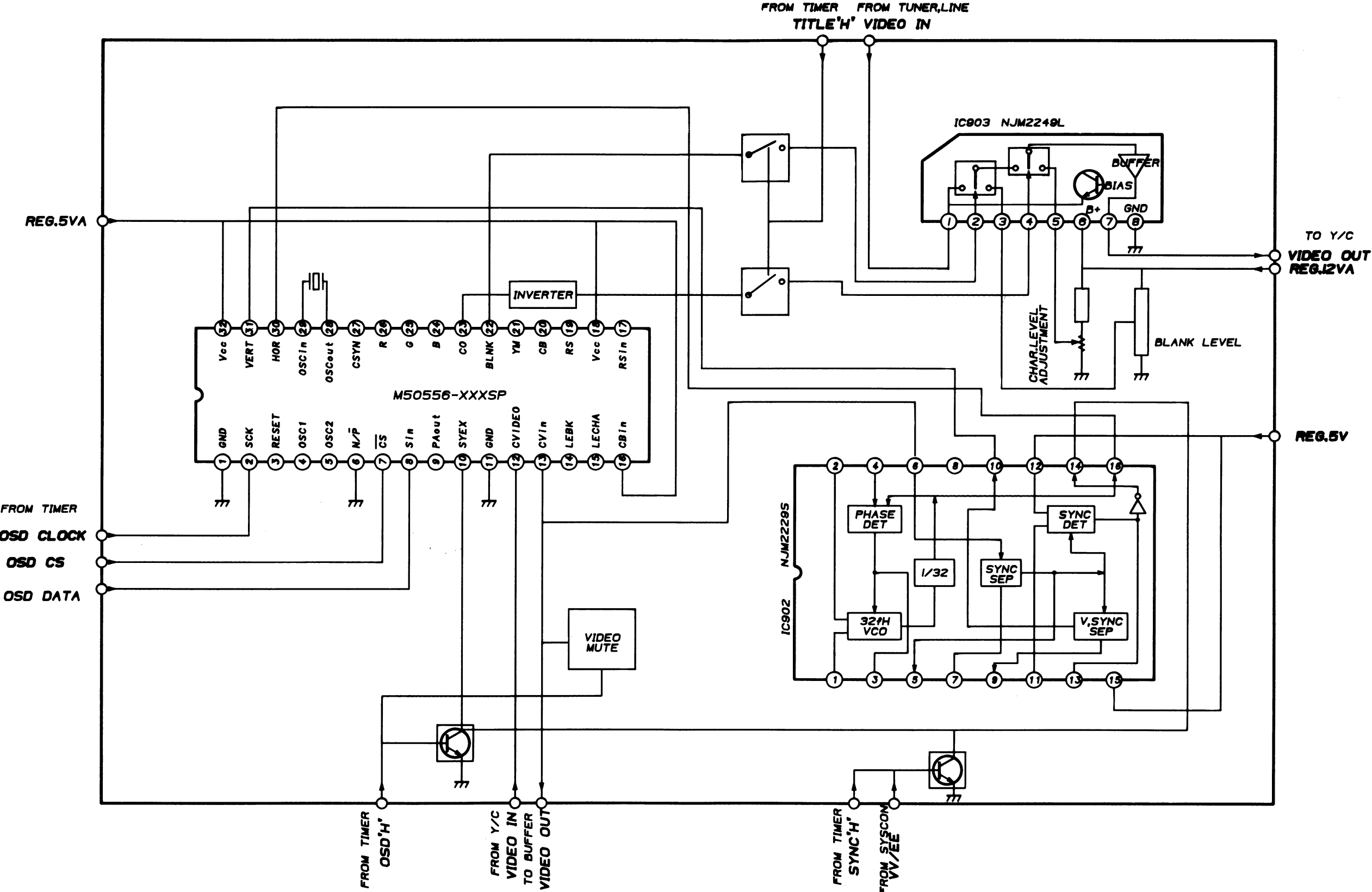
6. Syscon/Timer/Key Function Block Diagram



7. Tuner/IF Block Diagram



8. OSD/Title Block Diagram

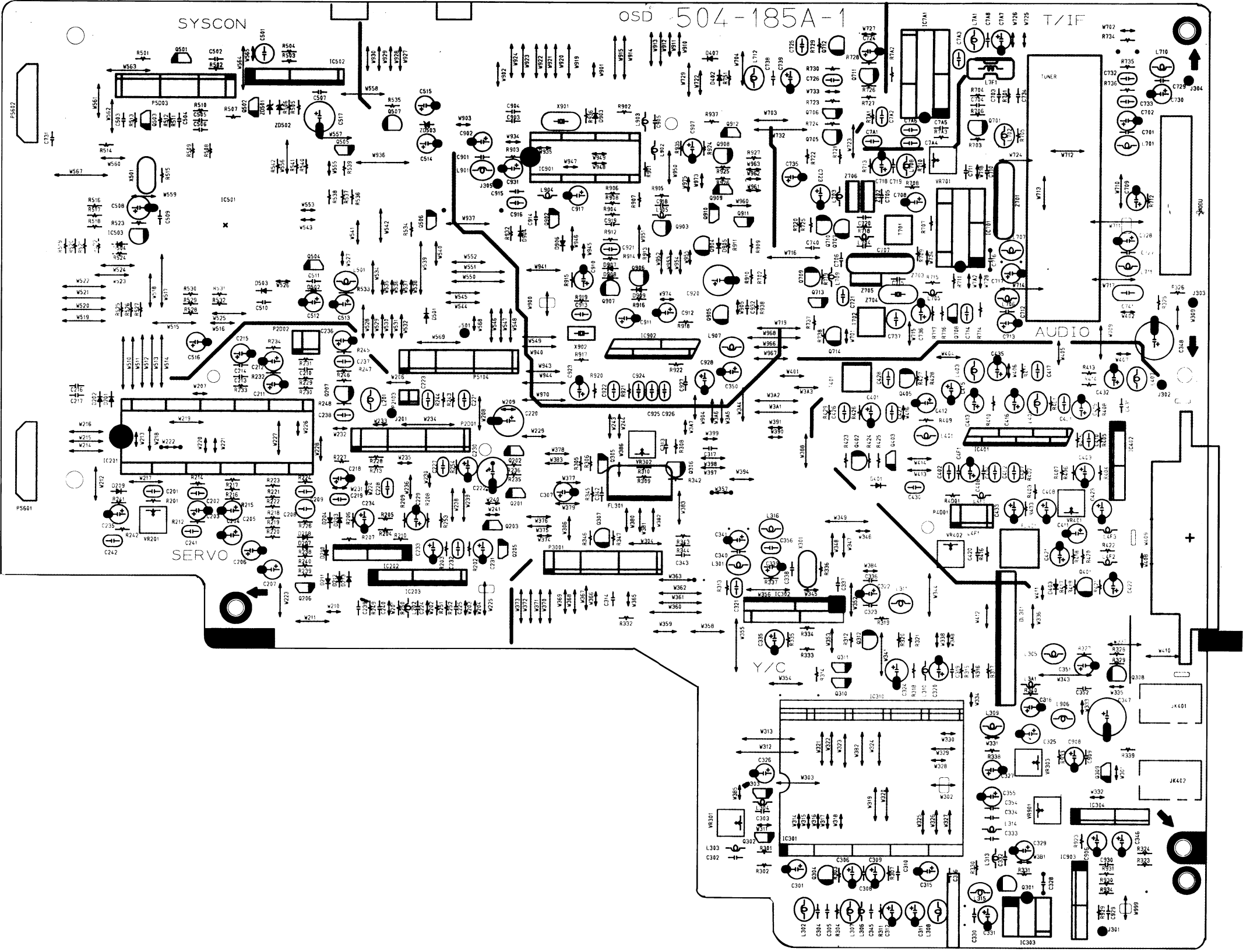


1



PRINTED CIRCUIT BOARD DIAGRAMS

1. Main P.C.Board



(Component Side)

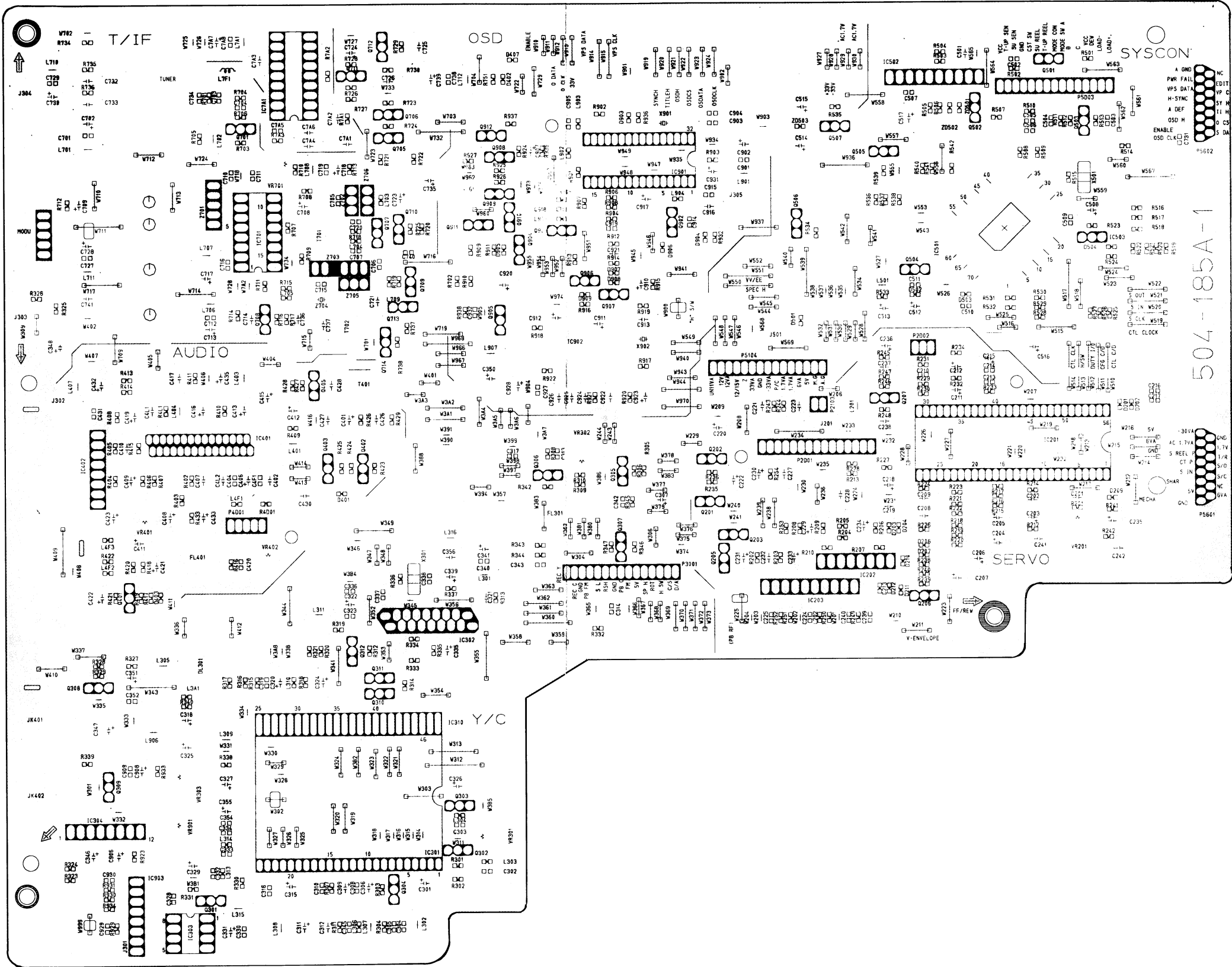
5

4

3

2

1



(Solder Side)

A

B

C

D

E

F

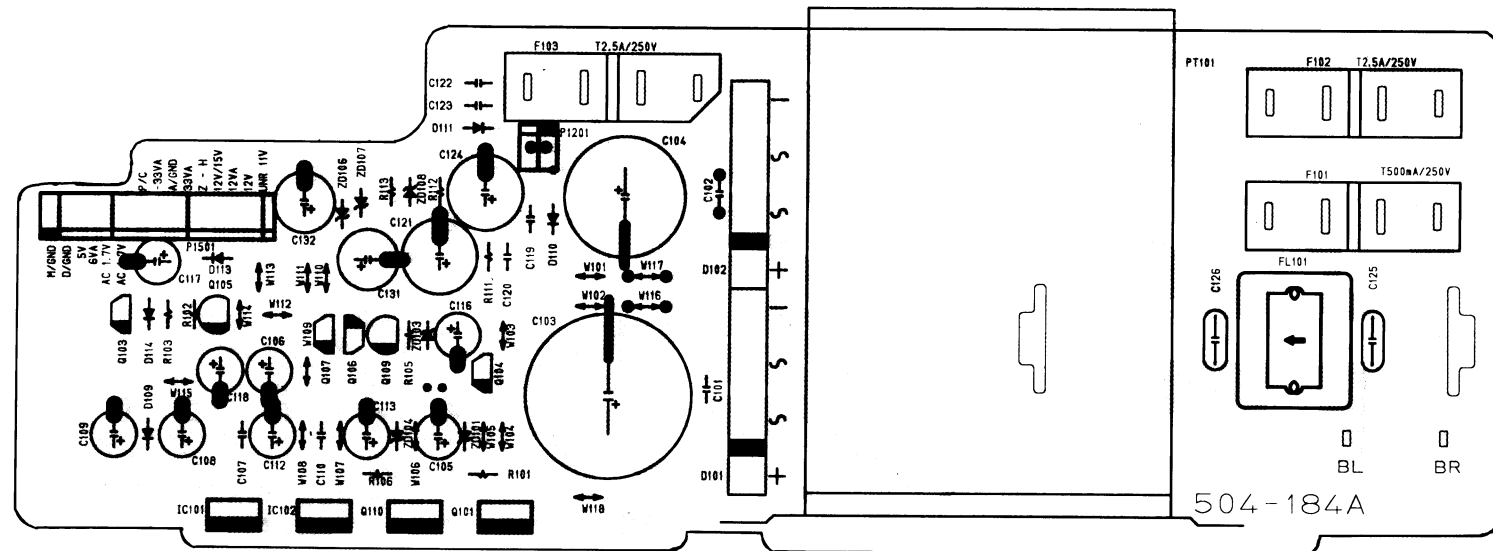
G

H

5

2. Power P.C.Board

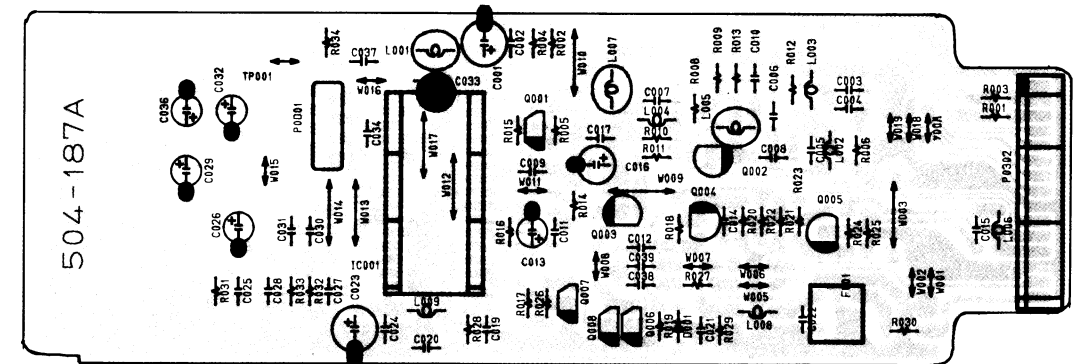
4



(Component Side)

3. Pre-Amp P.C.Board

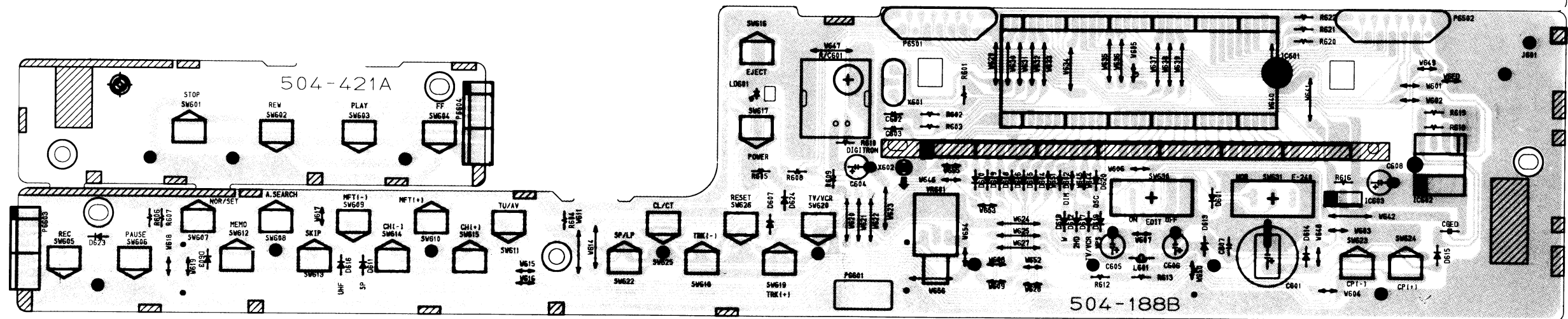
3



(Component Side)

4. Timer/Key Board P.C.Board

2



(Component Side)

1

A

B

C

D

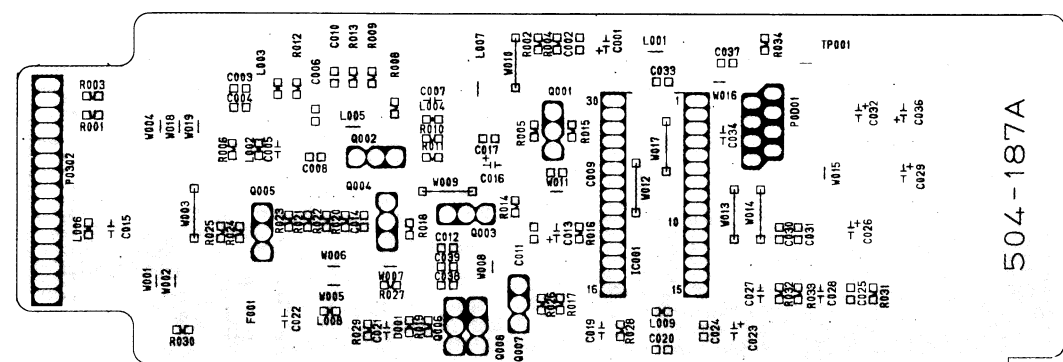
E

F

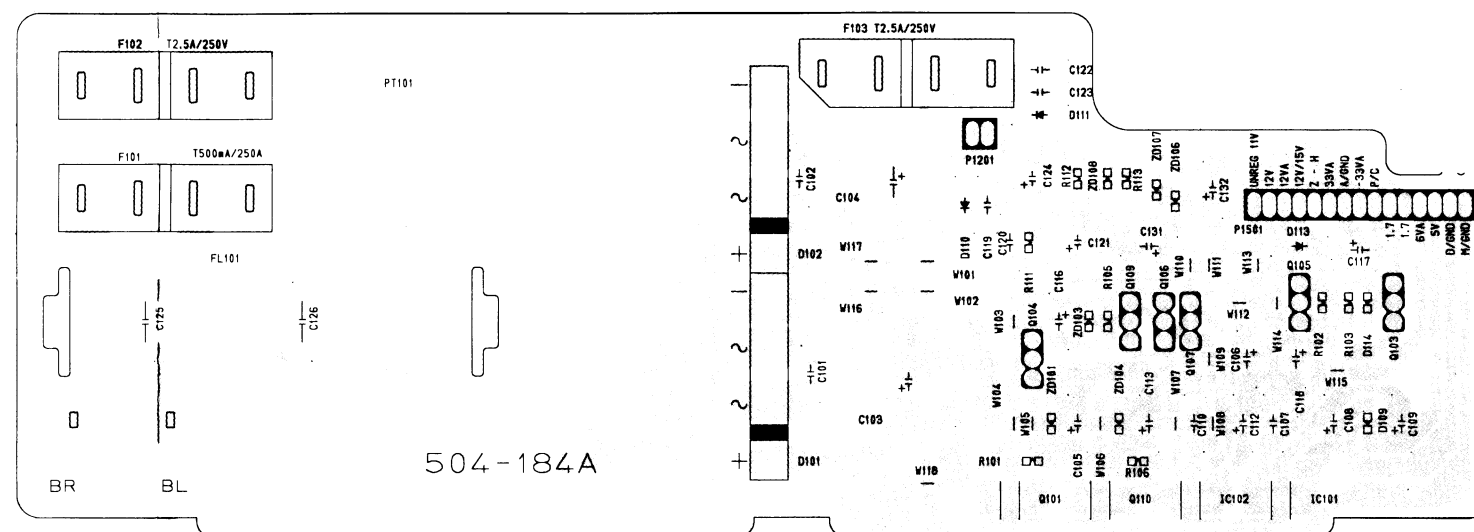
G

H

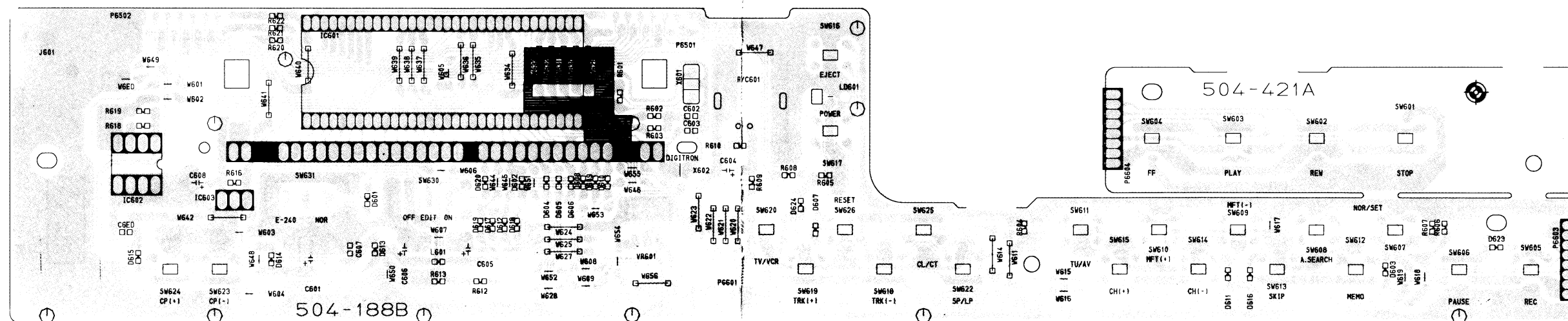
4



(Solder Side)



(Solder Side)



(Solder Side)

A

B

C

D

E

F

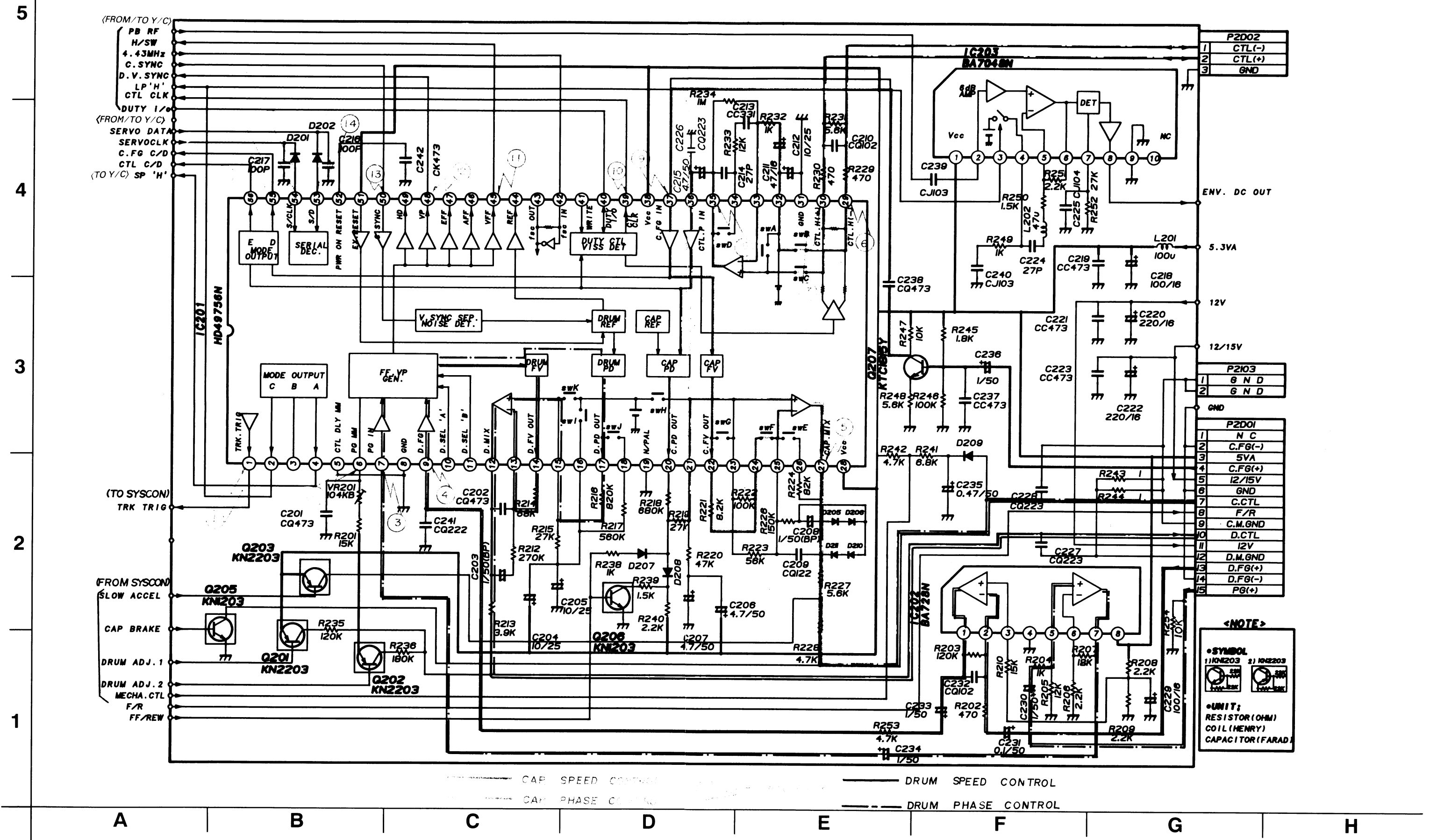
C

H

1. Power Circuit Diagram



2. Servo Circuit Diagram



<NOTE>

•SYMBOL

1) KN2203 2) KN2203

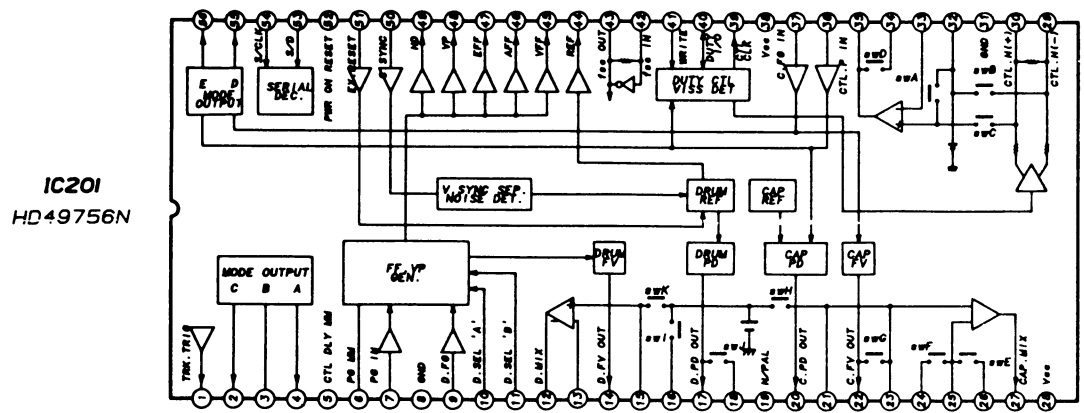
•UNIT:

RESISTOR (OHM)

COIL (HENRY)

CAPACITOR (FARAD)

SERVO IC AND TR VOLTAGE SHEET



| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------|-----|-----|-----|-----|---|---|-----|---|---|-----|---|-----|-----|-----|-----|---|---|-----|---|-----|-----|-----|-----|-----|-----|---|-----|-----|
| RECORD MODE | 5 | 2.5 | 0.8 | 0.7 | 5 | 5 | 0.4 | 0 | 0 | 2.5 | 0 | 2.5 | 2.6 | 2.6 | 2.6 | 5 | 5 | 3.6 | 5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 0 | 2.7 | 2.1 |
| PLAYBACK MODE | 2.0 | 2.5 | 0.8 | 0.7 | 5 | 5 | 0.4 | 0 | 0 | 2.5 | 0 | 2.5 | 2.6 | 2.6 | 2.6 | 5 | 5 | 2.1 | 5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 0 | 2.5 | 2.5 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------|-----|---|---|---|---|-----|-----|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|-----|-----|-----|-----|-----|-----|-----|-----|---|
| PLAYBACK MODE | 3.6 | 0 | 0 | 5 | 0 | 0 | 2.2 | 0 | 2.7 | 2.7 | 2.7 | 1.3 | 2.5 | 2.5 | 2.5 | 2.5 | 2.4 | 0 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.7 | 2.7 | 5 |
| RECORD MODE | 3.6 | 0 | 0 | 5 | 0 | 0.4 | 2.2 | 0 | 2.7 | 2.7 | 2.7 | 1.3 | 2.5 | 2.5 | 2.5 | 2.5 | 2.4 | 0 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.7 | 2.7 | 5 |

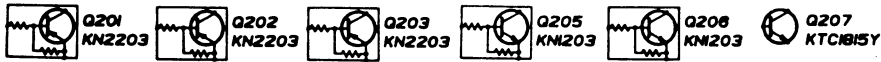
IC202
BA728N

| | | | | | | | | |
|---------------|-----|-----|-----|---|---|---|---|---|
| PLAYBACK MODE | 2.3 | 2.2 | 2.5 | 0 | 0 | 0 | 0 | 5 |
| RECORD MODE | 2.3 | 2.2 | 2.5 | 0 | 0 | 0 | 0 | 5 |

IC203
BA7048N

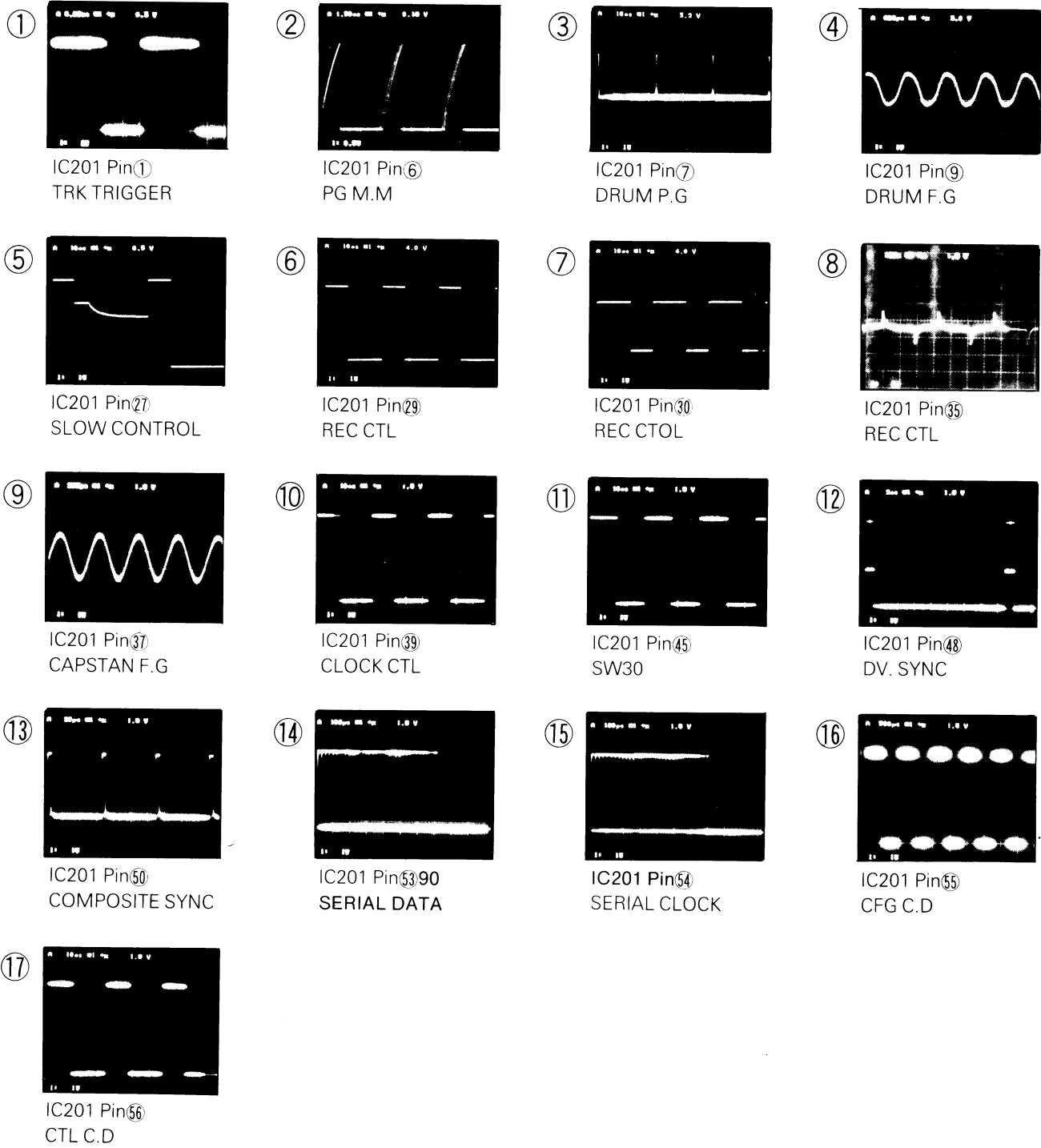
| | | | | | | | | | | |
|---------------|---|-----|---|---|-----|-----|-----|-----|---|---|
| PLAYBACK MODE | 5 | 1.8 | 5 | 0 | 2.4 | 2.5 | 2.4 | 4.5 | 0 | 0 |
| RECORD MODE | 5 | 1.8 | 5 | 0 | 0 | 2.5 | 0.2 | 0.2 | 0 | 0 |

Servo TR Voltage Sheet

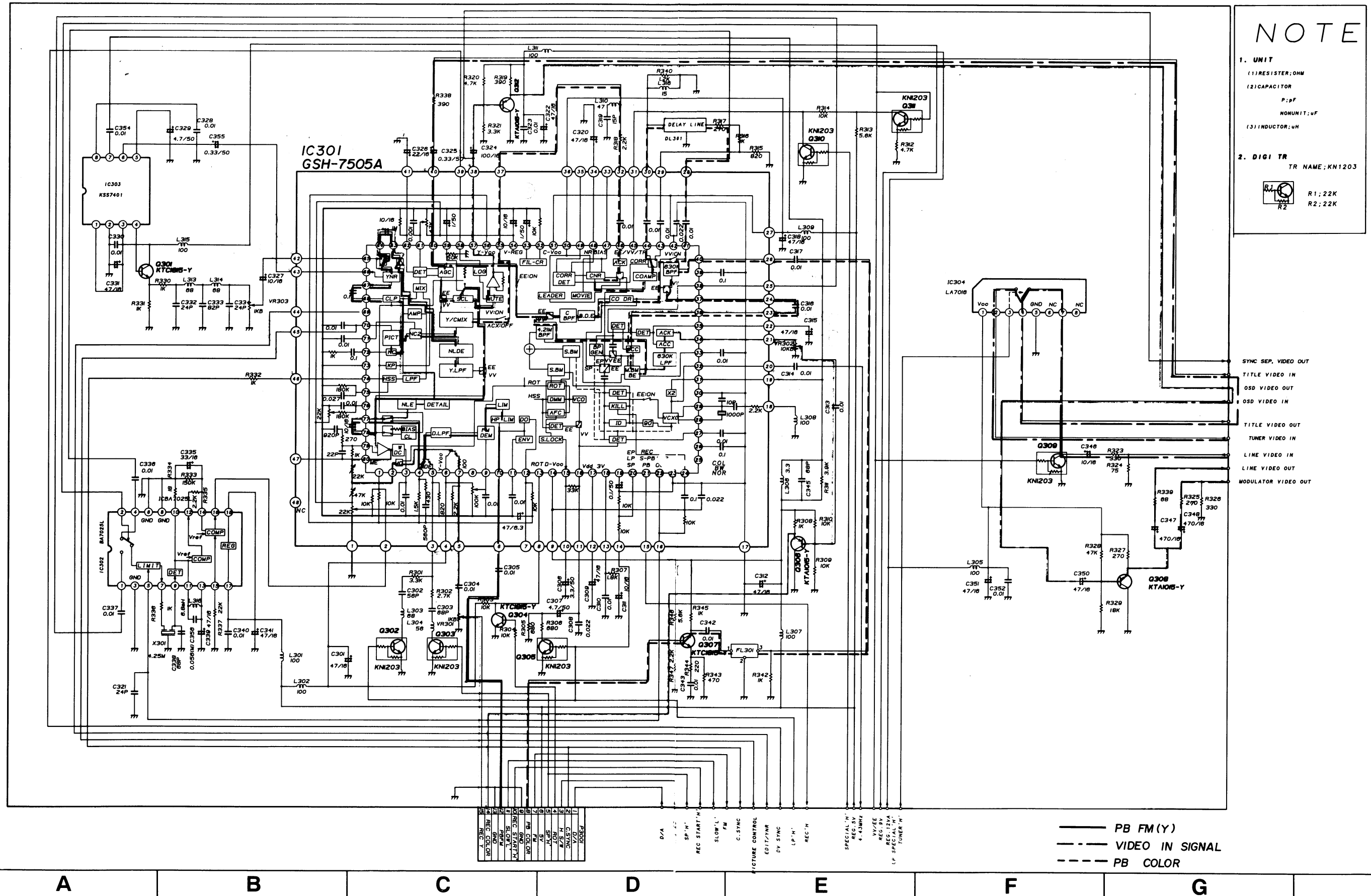


| MODE | MODE | Q201 | Q202 | Q203 | Q205 | Q206 | Q207 |
|-----------|----------|------|------|------|------|------|------|
| EMITTER | PLAYBACK | 5 | 5 | 5 | 0 | 0 | 3.4 |
| | RECORD | 5 | 5 | 5 | 0 | 0 | 3.4 |
| BASE | PLAYBACK | 5 | 5 | 5 | 0 | 0 | 4.1 |
| | RECORD | 5 | 5 | 5 | 0 | 0 | 4.1 |
| COLLECTOR | PLAYBACK | 1.5 | 1.5 | 2.7 | 2.7 | 5 | 3.4 |
| | RECORD | 1.5 | 1.5 | 2.7 | 2.7 | 5 | 3.4 |

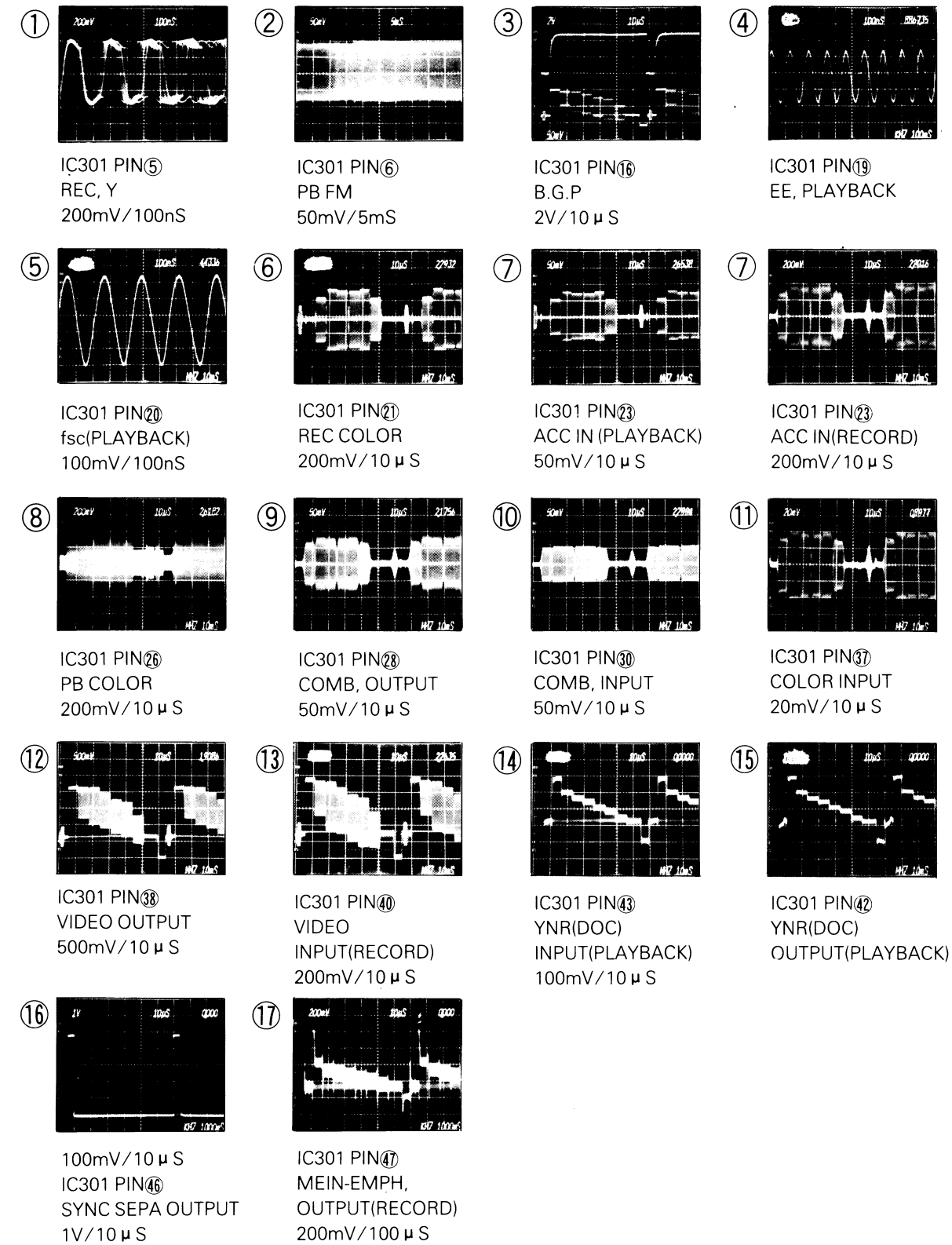
* Servo Oscilloscope Waveform



3. Y/C Circuit Diagram



*** Y/C Waveform**



*** Y/C IC Voltage Sheet(SP mode)**

| IC NO. | IC301 | | IC302 | | IC303 | | IC304 | |
|-----------------|-------|------|-------|-----|-------|------|-------|------|
| Mode Pin No. | REC | PB | REC | PB | REC | PB | REC | PB |
| 1 | 0 | 0 | 3.6 | 3.6 | 9.0 | 9.0 | 2.0 | 1.4 |
| 2 | 2.7 | 2.7 | 0 | 4.9 | 0 | 0 | 7.6 | 0 |
| 3 | 0 | 1.26 | 0 | 0 | 9.0 | 9.0 | | 2.5 |
| 4 | 4.9 | 4.9 | 3.6 | 3.6 | 3.3 | 3.30 | | 0 |
| 5 | 3.6 | 4.0 | 4.5 | 4.5 | 3.2 | 3.2 | 7.0 | 0.9 |
| 6 | 4.0 | 4.0 | 0 | 0 | 2.4 | 2.4 | | 0 |
| 7 | 4.9 | 4.7 | 4.5 | 4.5 | 1.7 | 1.7 | | 7.7 |
| 8 | 2.5 | 2.5 | 0 | 0 | 5.0 | 5.0 | | 11.7 |
| 9 | 5.0 | 5.0 | 3.0 | 3.0 | | | | |
| 10 | 3.2 | 3.2 | 0 | 0 | | | | |
| 11 | 3.2 | 3.2 | 3.6 | 3.5 | | | | |
| 12 | 3.0 | 3.0 | 0 | 0.9 | | | | |
| 13 | 0.5 | 2.3 | 3.5 | 3.5 | | | | |
| 14 | 0 | 0 | 0 | 1.0 | | | | |
| 15 | 5.0 | 0 | 0 | 0 | | | | |
| 16 | 4.5 | 4.5 | 2.7 | 2.7 | | | | |
| 17 | 0 | 0 | 5 | 5 | | | | |
| 18 | 0 | 0 | 5 | 5 | | | | |
| 19 | 5.0 | 5.0 | | | | | | |
| 20 | 2.2 | 2.2 | | | | | | |
| 21 | 2.2 | 2.3 | | | | | | |
| 22 | 2.2 | 2.2 | | | | | | |
| 23 | 2.5 | 2.5 | | | | | | |
| 24 | 1.8 | 2.0 | | | | | | |
| 25 | 1.8 | 1.8 | | | | | | |
| 26 | 3.9 | 3.9 | | | | | | |
| 27 | 4.9 | 4.9 | | | | | | |
| 28 | 0 | 0 | | | | | | |
| 29 | 0 | 0 | | | | | | |
| 30 | 0 | 0 | | | | | | |
| 31 | 5.0 | 3.0 | | | | | | |
| 32 | 3.3 | 3.3 | | | | | | |
| 33 | 3.5 | 3.5 | | | | | | |
| 34 | 2.4 | 2.4 | | | | | | |
| 35 | 1.8 | 3.5 | | | | | | |
| 36 | 4.9 | 4.9 | | | | | | |
| 37 | 3.3 | 3.3 | | | | | | |
| 38 | 2.2 | 2.1 | | | | | | |
| 39 | 0 | 0 | | | | | | |
| 40 | 2.7 | 2.6 | | | | | | |
| 41 | 2.0 | 1.6 | | | | | | |
| 42 | 3.0 | 3.0 | | | | | | |
| 43 | 1.8 | 1.8 | | | | | | |
| 44 | 0 | 0 | | | | | | |
| 45 | 2.7 | 2.7 | | | | | | |
| 46 | 0.4 | 0.4 | | | | | | |
| 47 | 2.4 | 2.6 | | | | | | |
| 48 | 0 | 0 | | | | | | |

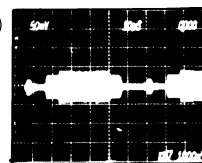
*** Y/C TR Voltage Sheet(SP mode)**

| Mode TR NO. | REC | | | PLAY | | |
|----------------|-----|-----|-----|------|-----|-----|
| | E | C | B | E | C | B |
| Q301 | 2.6 | 9.0 | 3.3 | 2.6 | 9.0 | 3.3 |
| Q302 | 0 | 1.6 | 0 | 0 | 0.1 | 0 |
| Q303 | 0 | 0 | 4.9 | 0 | 0 | 4.9 |
| Q304 | 0 | 2.5 | 0.3 | 0 | 2.5 | 2.3 |
| Q305 | | | | | | |
| Q306 | 3.2 | 0 | 2.5 | 3.2 | 0 | 2.5 |
| Q307 | 0.7 | 3.5 | 1.4 | 0.7 | 3.5 | 1.4 |
| Q308 | 7.0 | 0 | 6.3 | 7.0 | 0 | 6.3 |
| Q309 | 0 | 7.6 | 0 | 0 | 06 | 4.9 |
| Q310 | 0 | 5 | 0 | 0 | 3.0 | 0 |
| Q311 | 0 | 5.0 | 0 | 2.6 | 2.6 | 4.9 |
| Q312 | 5.6 | 0 | 5 | 5.6 | 0 | 5 |

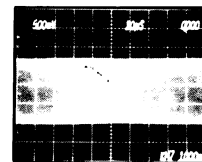
4. Pre-Amp Circuit Diagram

* Pre-Amp Waveform

①



PRE-AMP TP001
RECORD COLOR
50mV/100 μ S

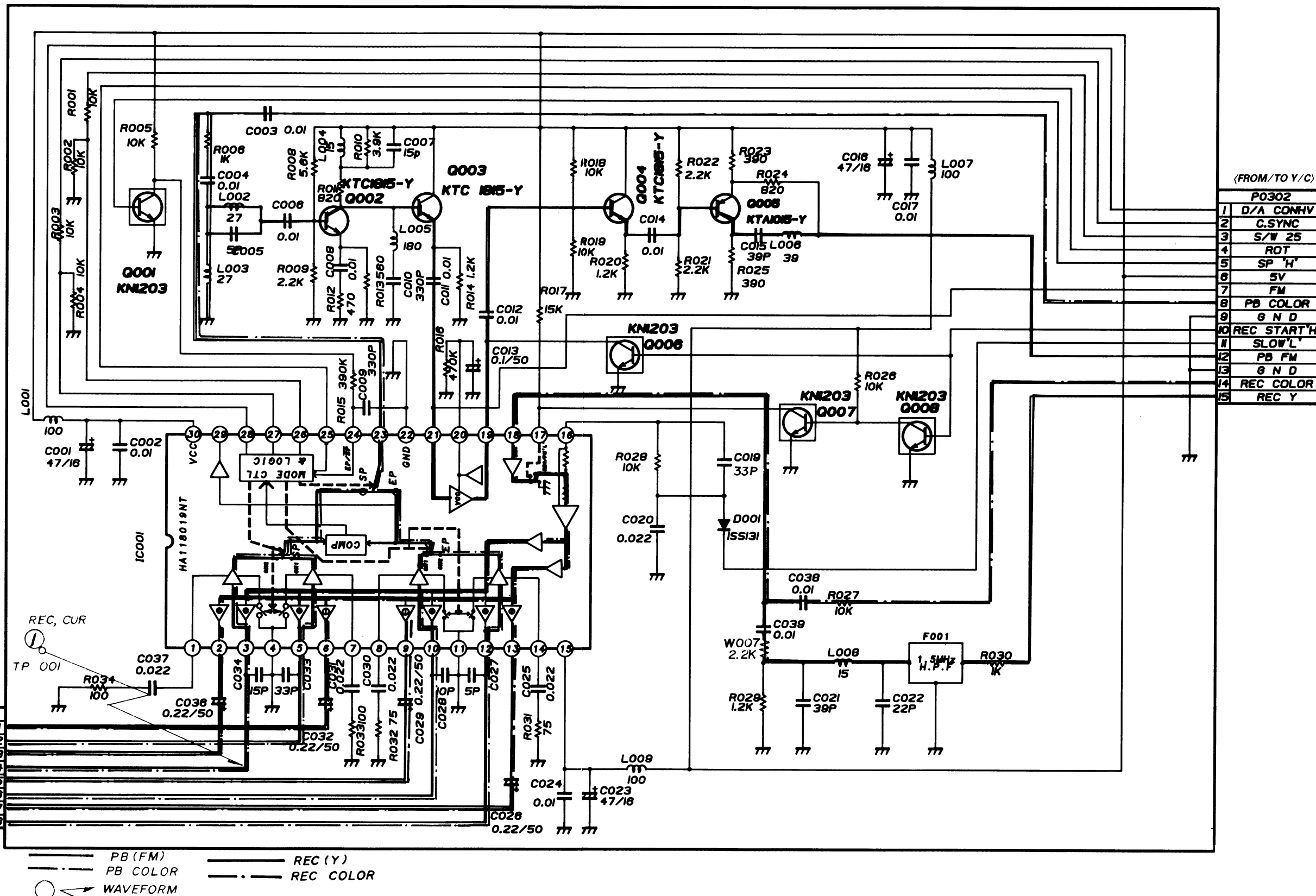


PRE-AMP TP001
RECORD Y
500mV/100 μ S

* Pre-Amp Voltage Sheet (IC001)

| Mode Pin No. | PB | REC |
|--------------|-----|------|
| 1 | 2.3 | 4.2 |
| 2 | 0 | 2.2 |
| 3 | 0.7 | 2.2 |
| 4 | 0 | 0 |
| 5 | 0.7 | 2.2 |
| 6 | 0 | 2.2 |
| 7 | 2.2 | 4.2 |
| 8 | 4.2 | 4.2 |
| 9 | 0 | 0 |
| 10 | 0 | 0 |
| 11 | 0 | 0 |
| 12 | 0 | 0 |
| 13 | 0 | 0 |
| 14 | 4.2 | 4.2 |
| 15 | 5 | 4.8 |
| 16 | 2.7 | 2.7 |
| 17 | 0 | 3.9 |
| 18 | 4.2 | 4.0 |
| 19 | 2.5 | 0.7 |
| 20 | 2.2 | 0.1 |
| 21 | 3.5 | 3.1 |
| 22 | 0 | 0 |
| 23 | 3 | 4.3 |
| 24 | 0.7 | -0.7 |
| 25 | 2.3 | 2.3 |
| 26 | 1.8 | 1.8 |
| 27 | 0.1 | 0.1 |
| 28 | 4.3 | 4.3 |
| 29 | 2 | 3.9 |
| 30 | 5 | 5 |

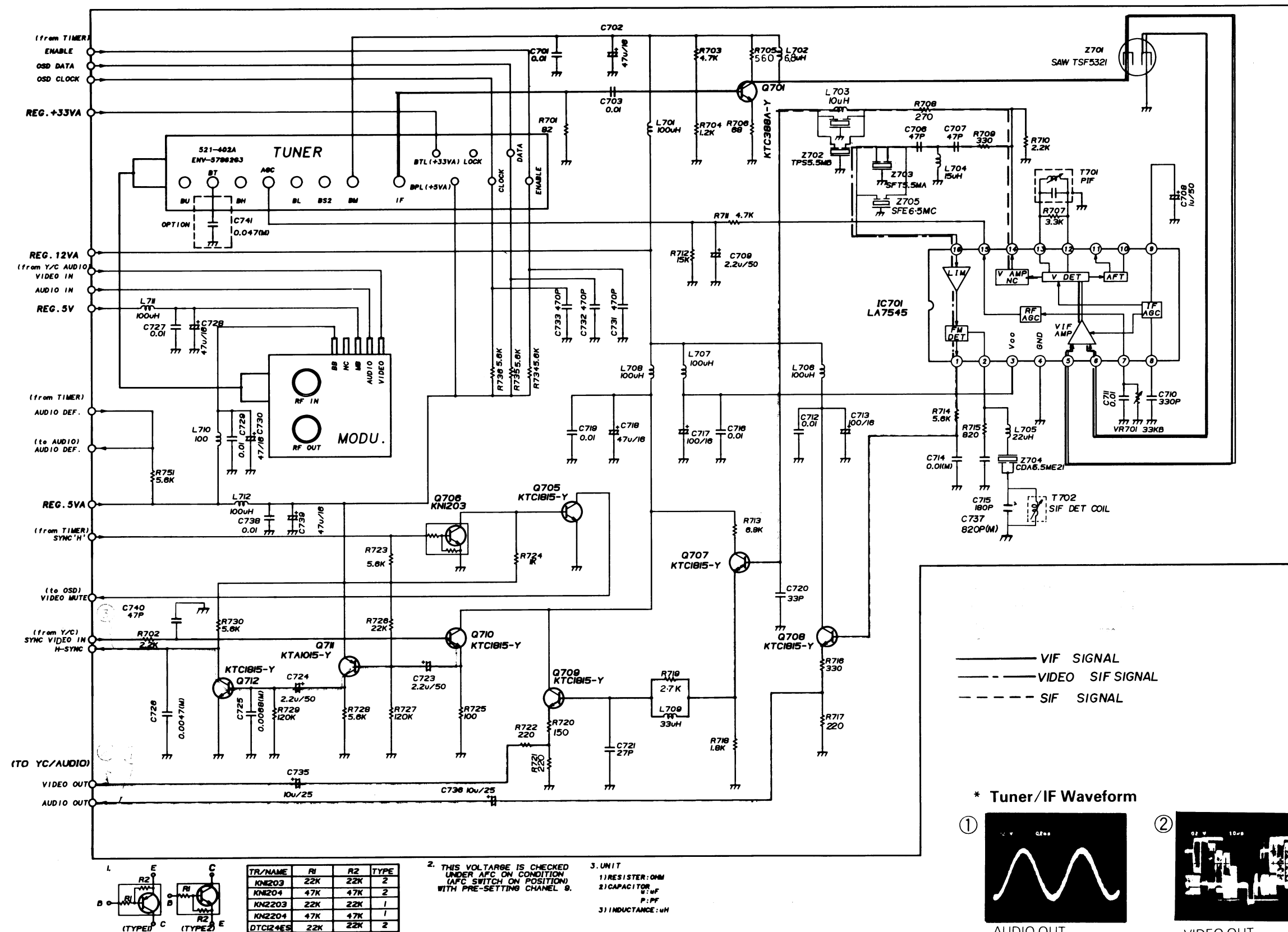
| P0001 | RI REC | 1 |
|---------|--------|---|
| RI PLAY | 2 | |
| LI REC | 3 | |
| LI PLAY | 4 | |
| R2 REC | 5 | |
| R2 PLAY | 6 | |
| L2 REC | 7 | |
| L2 PLAY | 8 | |



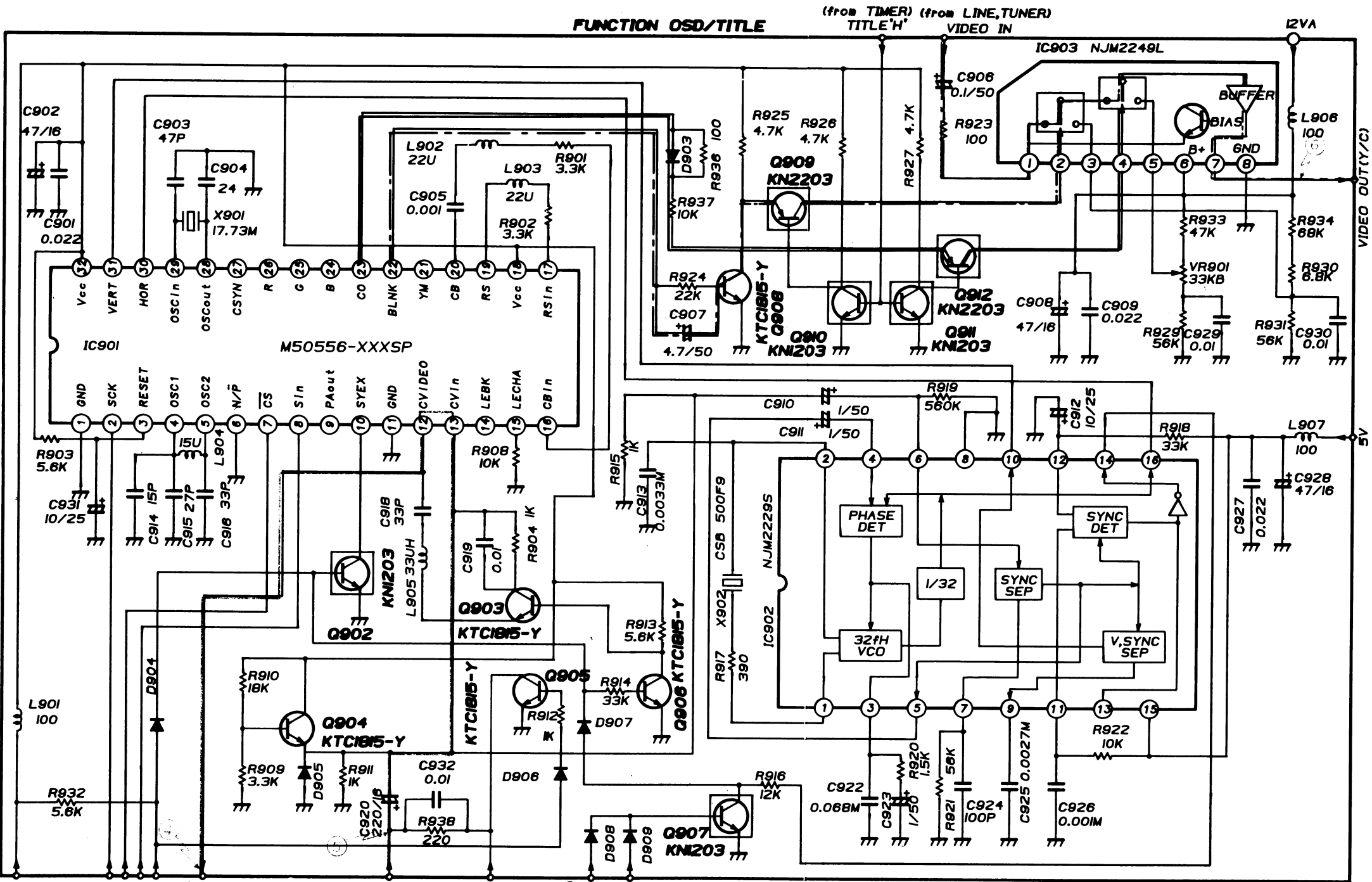
(FROM/TO Y/C)

| P0302 | |
|-------|-------------|
| 1 | D/A CONHV |
| 2 | C.SYNC |
| 3 | S/V 25 |
| 4 | ROT |
| 5 | SP 'H' |
| 6 | 5V |
| 7 | FM |
| 8 | PB COLOR |
| 9 | G N D |
| 10 | REC START'H |
| 11 | SLOW'L |
| 12 | PB FM |
| 13 | G N D |
| 14 | REC COLOR |
| 15 | REC Y |

7. Tuner/IF Circuit Diagram



8. OSD/Title Circuit Diagram



IC & TR PIN VOLTAGE

| IC 901 M50554-XXXSP | | | |
|---------------------|---------|-----|---------|
| PIN | VOLTAGE | PIN | VOLTAGE |
| 1 | 0 | 17 | 0.80 |
| 2 | 0.89 | 18 | 5.0 |
| 3 | 4.99 | 19 | 0.8 |
| 4 | 2.37 | 20 | 0 |
| 5 | 2.2 | 21 | 0 |
| 6 | 0 | 22 | 4.89 |
| 7 | 5.03 | 23 | 0 |
| 8 | 5.0 | 24 | 0 |
| 9 | 0 | 25 | 0 |
| 10 | 4.92 | 26 | 0 |
| 11 | 0 | 27 | 4.53 |
| 12 | 0.72 | 28 | 5.0 |
| 13 | 0.72 | 29 | 2.28 |
| 14 | 0.60 | 30 | 2.26 |
| 15 | 2.0 | 31 | 0.35 |
| 16 | 0.6 | 32 | 0 |

| IC 902 NJM2229S | | | |
|-----------------|---------|-----|---------|
| PIN | VOLTAGE | PIN | VOLTAGE |
| 1 | 2.85 | 9 | 0.16 |
| 2 | 2.10 | 10 | 0 |
| 3 | 2.16 | 11 | 0.55 |
| 4 | 0.13 | 12 | 1.8 |
| 5 | 0.73 | 13 | 4.32 |
| 6 | 3.47 | 14 | 0 |
| 7 | 2.62 | 15 | 4.97 |
| 8 | 0 | 16 | 0.37 |

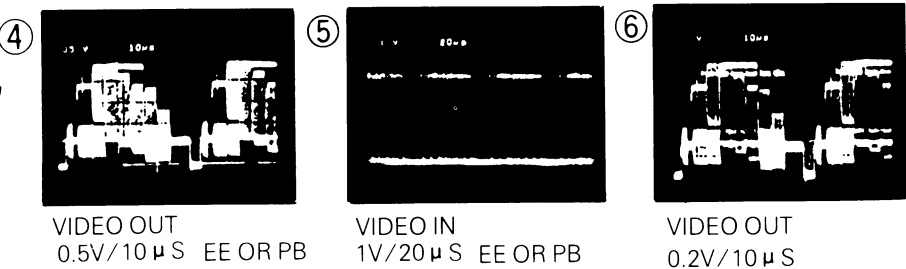
| IC 903 NJM2249L | | | |
|-----------------|---------|-----|---------|
| PIN | VOLTAGE | PIN | VOLTAGE |
| 1 | 5.01 | 5 | 5.55 |
| 2 | 0 | 6 | 11.74 |
| 3 | 5.08 | 7 | 4.30 |
| 4 | 0 | 8 | 0 |

| TR | E | C | B |
|------|------|------|------|
| Q901 | | | |
| Q902 | 0 | 4.92 | 0.39 |
| Q903 | 1.29 | 1.29 | 1.97 |
| Q904 | 0.72 | 5.0 | 0.73 |
| Q905 | 0 | 5.67 | 0 |
| Q906 | 0 | 1.97 | 0.33 |
| Q907 | 2.88 | 0 | 0 |
| Q908 | 0 | 0 | 0.63 |
| Q909 | 5 | 0 | 5.03 |
| Q910 | 0 | 5.02 | 0 |
| Q911 | 0 | 4.7 | 0 |
| Q912 | 1.64 | 0 | 4.7 |

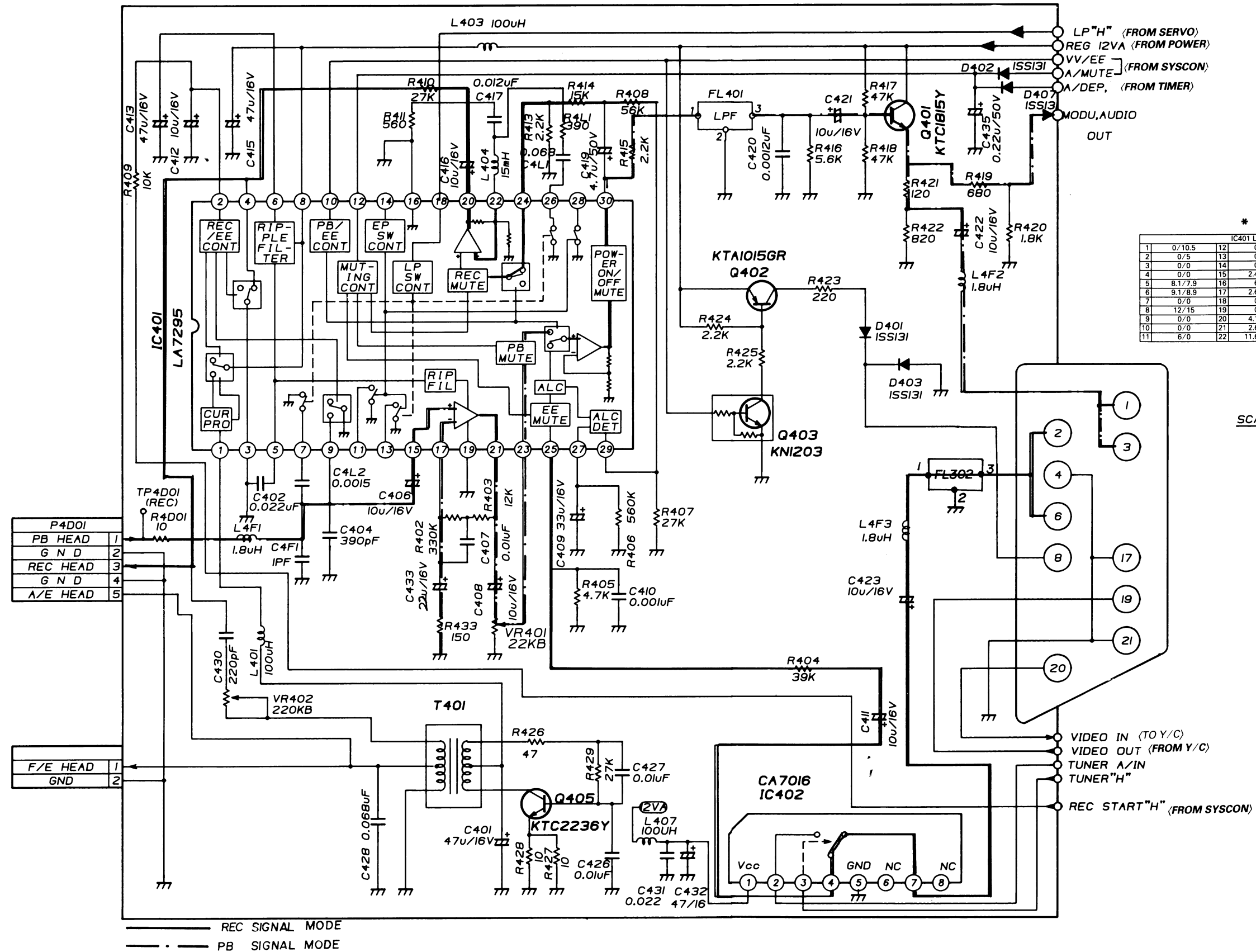
...UNIT...
1)RESISTER;OHM
2)CAPACITOR
P:PF
NONUNIT;UF
3)INDUCTOR;UH
4)DIODE;ISSI3I

- CHARACTER SIGNAL
- BLANK SIGNAL
- EE OR PB VIDEO SIGNAL
- CHARACTER BE RECORD WAVEFROM TO VIDEO/TUNER/LINE VIDEO AND TITLE MODE WAVEFORM

* OSD/Title Waveform



5. Audio Circuit Diagram



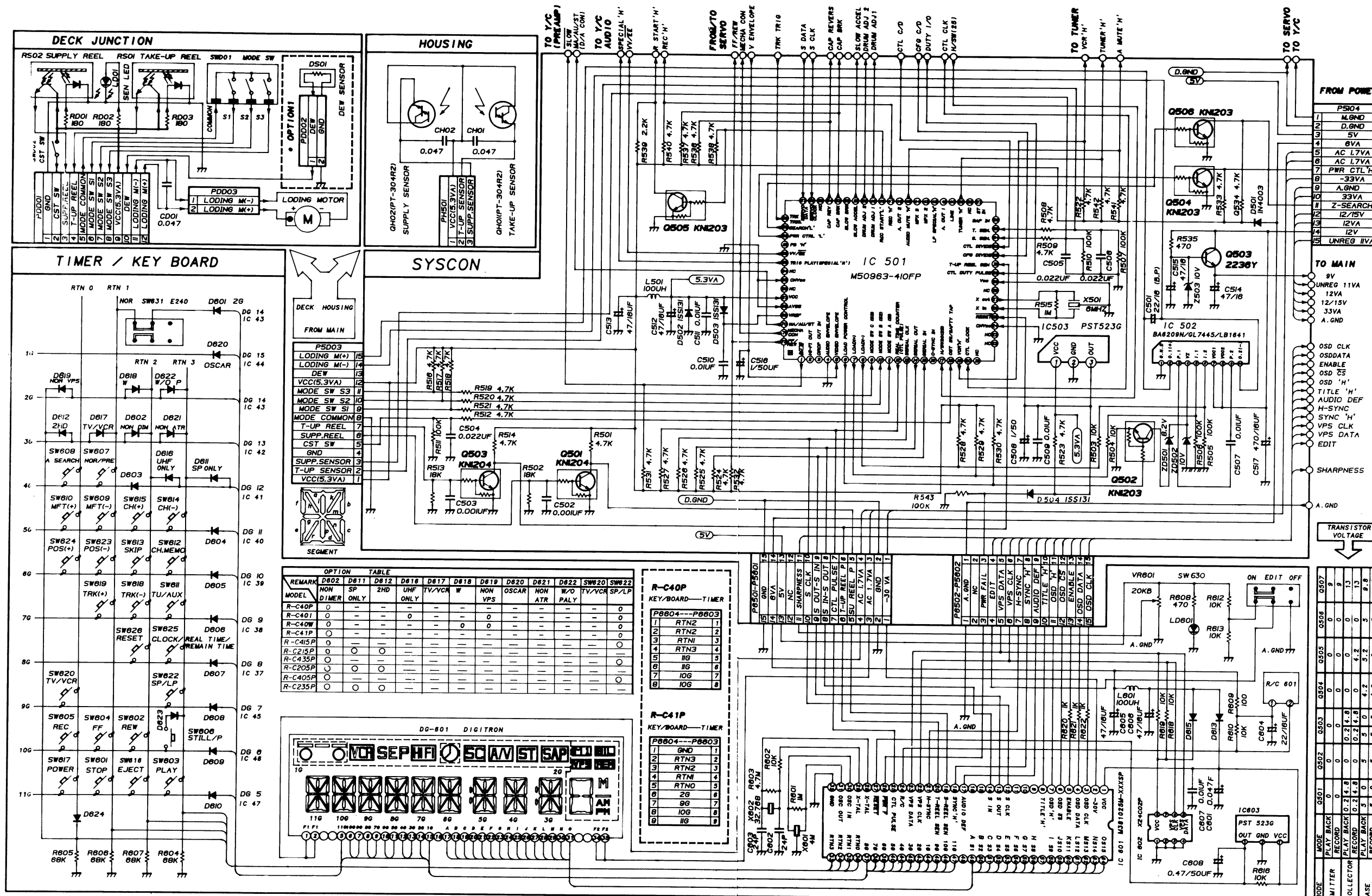
* PB/REC Mode

| IC401 LA7295 | | | | | |
|--------------|---------|----|-----------|----|---------|
| 1 | 0/10.5 | 12 | 0/0 | 23 | 0/0 |
| 2 | 0/5 | 13 | 0/0 | 24 | 0/0 |
| 3 | 0/0 | 14 | 0/0 | 25 | 0/0 |
| 4 | 0/0 | 15 | 2.4/2.3 | 26 | 0/0 |
| 5 | 8.1/7.9 | 16 | 6/0 | 27 | 0.2/0.2 |
| 6 | 9.1/8.9 | 17 | 2.6/2.4 | 28 | 0/0 |
| 7 | 0/0 | 18 | 0/0 | 29 | 0/0 |
| 8 | 12/15 | 19 | 0/0 | 30 | 3.4/3.3 |
| 9 | 0/0 | 20 | 4.1/3.5 | | |
| 10 | 0/0 | 21 | 2.6/2.4 | | |
| 11 | 6/0 | 22 | 11.6/11.6 | | |

SCART PIN SIGNAL NAME

- 1) 3), AUDIO OUT
- 2) 6), AUDIO IN
- 8), PB 12V
- 20), VIDEO IN
- 19), VIDEO OUT
- 4) 17) 21), GROUND

6. Syscon/Timer/Key Function Circuit Diagrams



* Syscon IC501, 502

Voltage Sheet

| IC501 | | |
|-------|-----|-----|
| Mode | PB | REC |
| 1 | 5 | 5 |
| 2 | 5 | 0 |
| 3 | 0 | 0 |
| 4 | 0 | 0 |
| 5 | 0 | 0.3 |
| 6 | 0 | 0 |
| 7 | 0 | 4.4 |
| 8 | 4.4 | 4.4 |
| 9 | 0 | 5 |
| 10 | 0 | 5 |
| 11 | 0 | 0.2 |
| 12 | 0 | 0 |
| 13 | 5 | 5 |
| 14 | 0 | 0 |
| 15 | 0 | 0 |
| 16 | 0 | 0 |
| 17 | 5 | 0 |
| 18 | 4.2 | 4.2 |
| 19 | 0 | 0 |
| 20 | 0 | 0 |
| 21 | 5 | 0 |
| 22 | 0 | 0 |
| 23 | 0 | 0 |
| 24 | 0 | 5 |
| 25 | 5 | 5 |
| 26 | 2.2 | 2.2 |
| 27 | 2.2 | 2.2 |
| 28 | 0 | 0 |
| 29 | 0 | 0 |
| 30 | 0 | 0 |
| 31 | 0 | 0 |
| 32 | 0 | 0 |
| 33 | 5 | 5 |
| 34 | 0 | 0 |
| 35 | 0 | 0 |
| 36 | 0 | 0 |
| 37 | 0 | 0 |
| 38 | 0 | 0 |
| 39 | 5 | 5 |
| 40 | 5 | 5 |
| 41 | 5.6 | 5.6 |
| 42 | 0 | 0 |
| 43 | 0 | 0 |
| 44 | 0 | 0 |
| 45 | 0.2 | 0.3 |
| 46 | 5.6 | 5.6 |
| 47 | 0 | 0 |
| 48 | 4.2 | 5 |
| 49 | 5 | 5 |
| 50 | 1.2 | 1.2 |
| 51 | 5 | 5 |
| 52 | 0 | 0 |
| 53 | 0 | 0 |
| 54 | 0 | 0 |
| 55 | 5 | 5 |
| 56 | 0 | 0 |
| 57 | 0 | 0 |
| 58 | 5 | 5 |
| 59 | 5 | 5 |
| 60 | 0 | 0 |
| 61 | 0 | 0 |
| 62 | 0 | 0 |
| 63 | 0 | 0 |
| 64 | 0 | 0 |
| 65 | 0 | 0 |
| 66 | 0 | 0 |
| 67 | 5 | 5 |
| 68 | 0 | 0 |
| 69 | 4.4 | 4.4 |
| 70 | 4.2 | 4.2 |
| 71 | 5 | 5 |
| 72 | 0 | 0 |

| IC502 | | |
|-------|------|------|
| Mode | PB | REC |
| 1 | 0 | 0 |
| 2 | 0.6 | 0.6 |
| 3 | 0.8 | 0.8 |
| 4 | 0.3 | 0.3 |
| 5 | 1.7 | 1.7 |
| 6 | 1.7 | 1.7 |
| 7 | 11.6 | 11.6 |
| 8 | 11.6 | 11.6 |
| 9 | 0.8 | 0.8 |
| 10 | 0.6 | 0.6 |

NOTE: SW 630 EDIT WRED TIN WIRE
 4 MD 0 X
 2 MD X 0
 FILE: D:BITRON - P
 DIODE: D101(1N4003), ALL 1SS131
 IC 601 TIMER - COM
 NOR M36102M5-131SP
 WITH VPT M36102SM-XXXSP

SECTION 4

MECHANISM

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MECHANISM TROUBLESHOOTING GUIDE

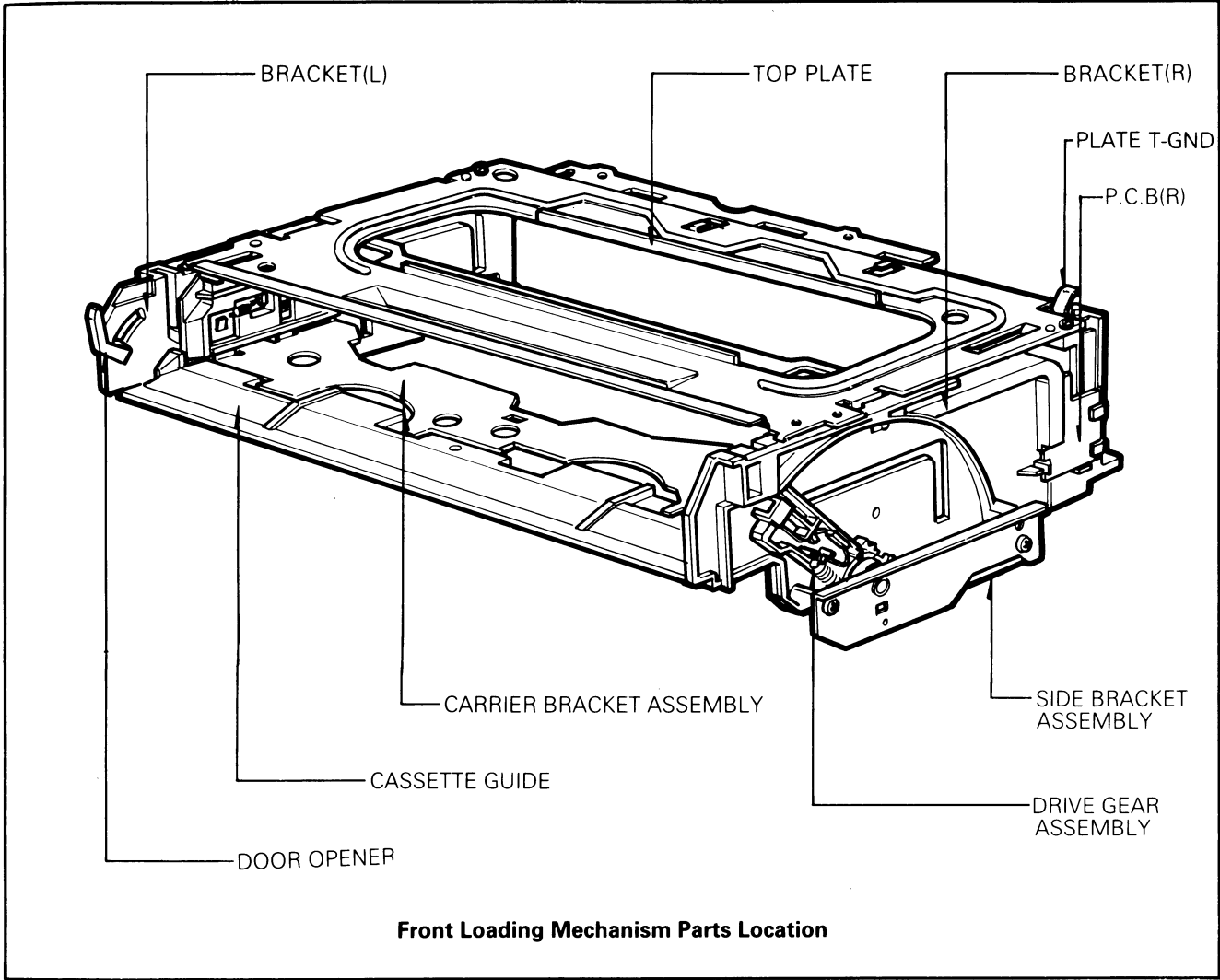
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FRONT LOADING MECHANISM DISASSEMBLY

• Front Loading Mechanism Parts Location



- | | |
|--------------------------------------------------------------------------------------------------------------------------|--------------------------|
| 1. Component list below will be discribed as if the top and bottom covers and the front panel have already been removed. | 5. Cassette Guide |
| 2. P.C.B Assembly | 6. Side Bracket Assembly |
| 3. Top Plate | 7. Bracket(L), (R) |
| 4. Carrier Bracket Assembly | 8. Door Opener |
| | 9. Drive Gear Assembly |

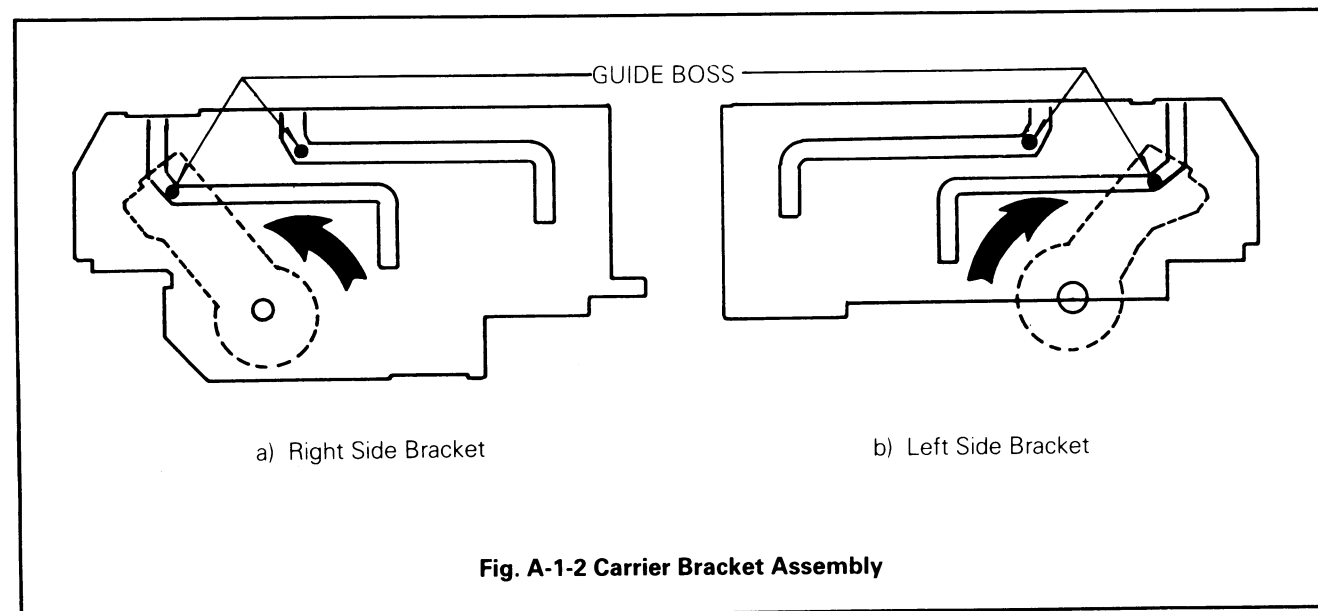
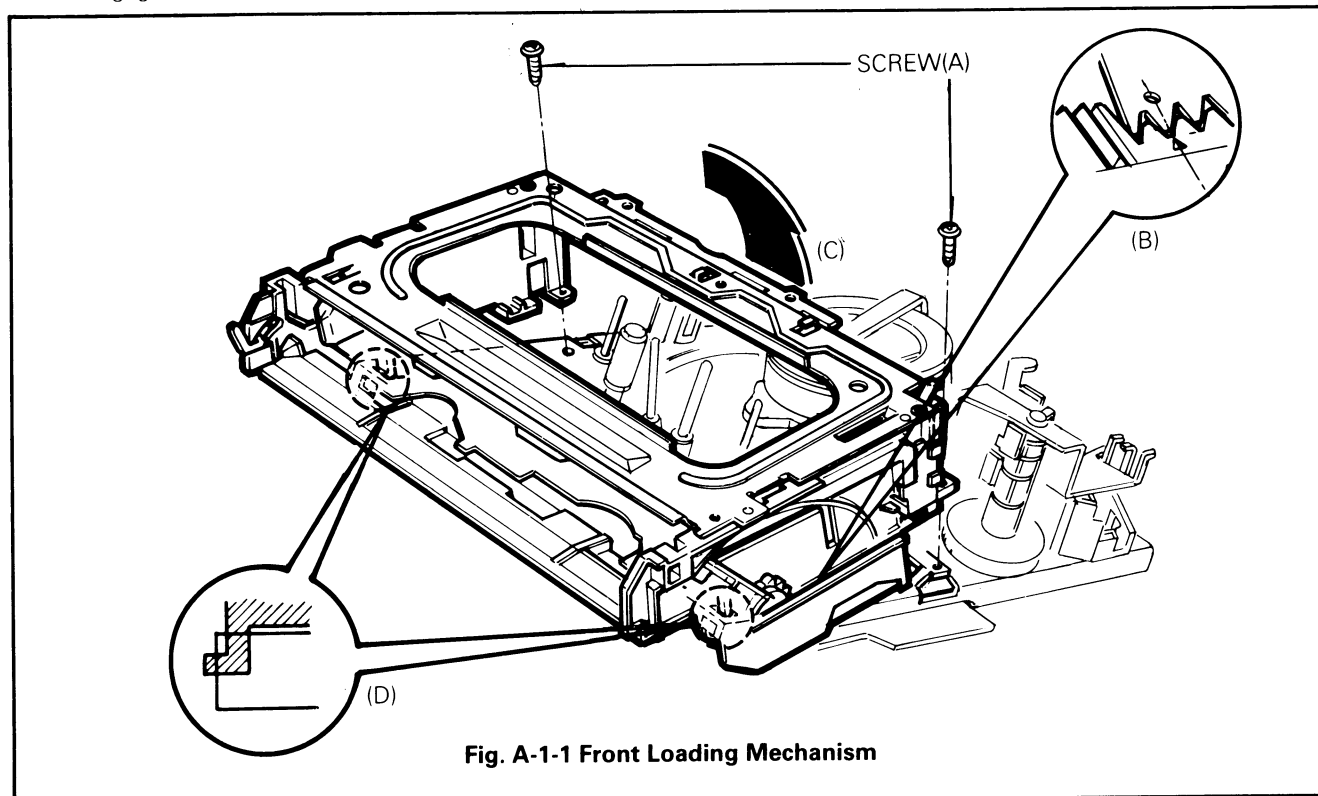
1. Front Loading Mechanism Assembly (Fig. A-1-1)

- 1) Remove the Top and Bottom Covers and the Front panel.
- 2) Unplug the connector.
- 3) Remove two screws(A).
- 4) Lift up the Front Loading Mechanism in the direction of arrow(C).

* NOTE

- 1) When disassembling and reassembling
 - ① Give special attention to removal, because two tabs(D) are engaged.

- ② Make sure that Bosses of Bracket(L),(R) are properly engaged in the holes of the chassis.
- ③ To reassemble Front Loading Mechanism, the Drive Gear Assembly should be turned in a counterclockwise as shown in Fig. A-1-2 so that the Rack Gear N.D of Front Loading Mechanism Assembly is meshed into Rack Gear F.L of Deck Mechanism Assembly correctly as shown in Fig. A-1-1.(B).



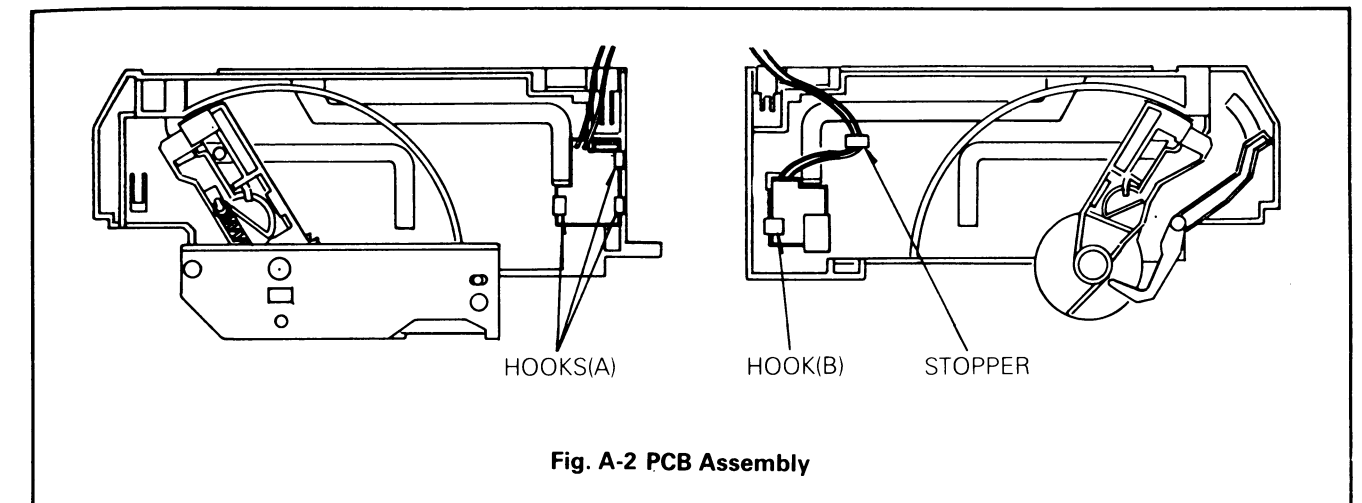
2. PCB(Printed Circuit Board) Assembly

2-1. P.C.B Assembly(R)(Fig. A-2)

- 1) Remove the PCB Assembly(R) by pushing three Hooks (A) outward.
- 2) Release the Lead wire from stoppers.

2-2. PCB Assembly(L).(Fig. A-2)

- 1) Remove the PCB Assembly(L) by pushing the Hook(B) outward.
- 2) Release the Lead Wire from stoppers.

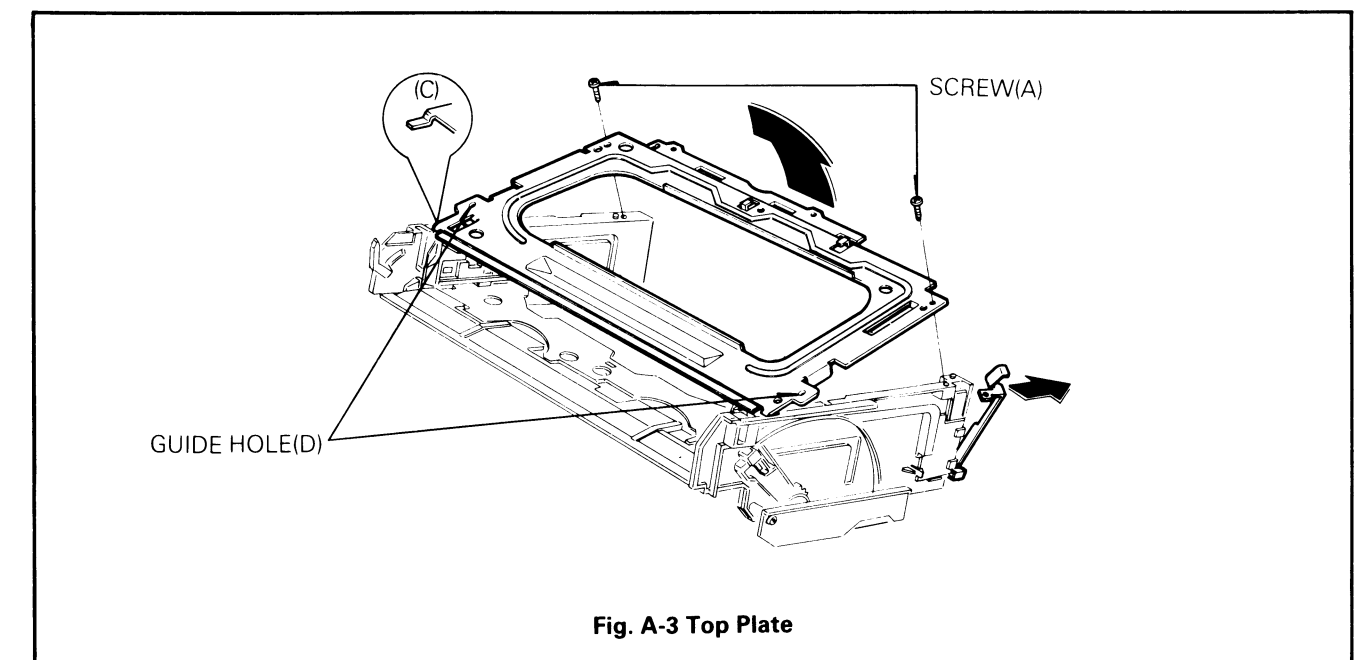


3. Top Plate(Fig. A-3)

- 1) Remove two screws(A).
- 2) Push the upper part of Top plate Ground and then lift up the Top Plate.

* NOTE

- 1) When reassembling, be certain that the tabs(C) of Top Plate is in both Bracket(L),(R).
- ① Then align the guide holes(D) of Top Plate with Bosses of side Bracket(L),(R).



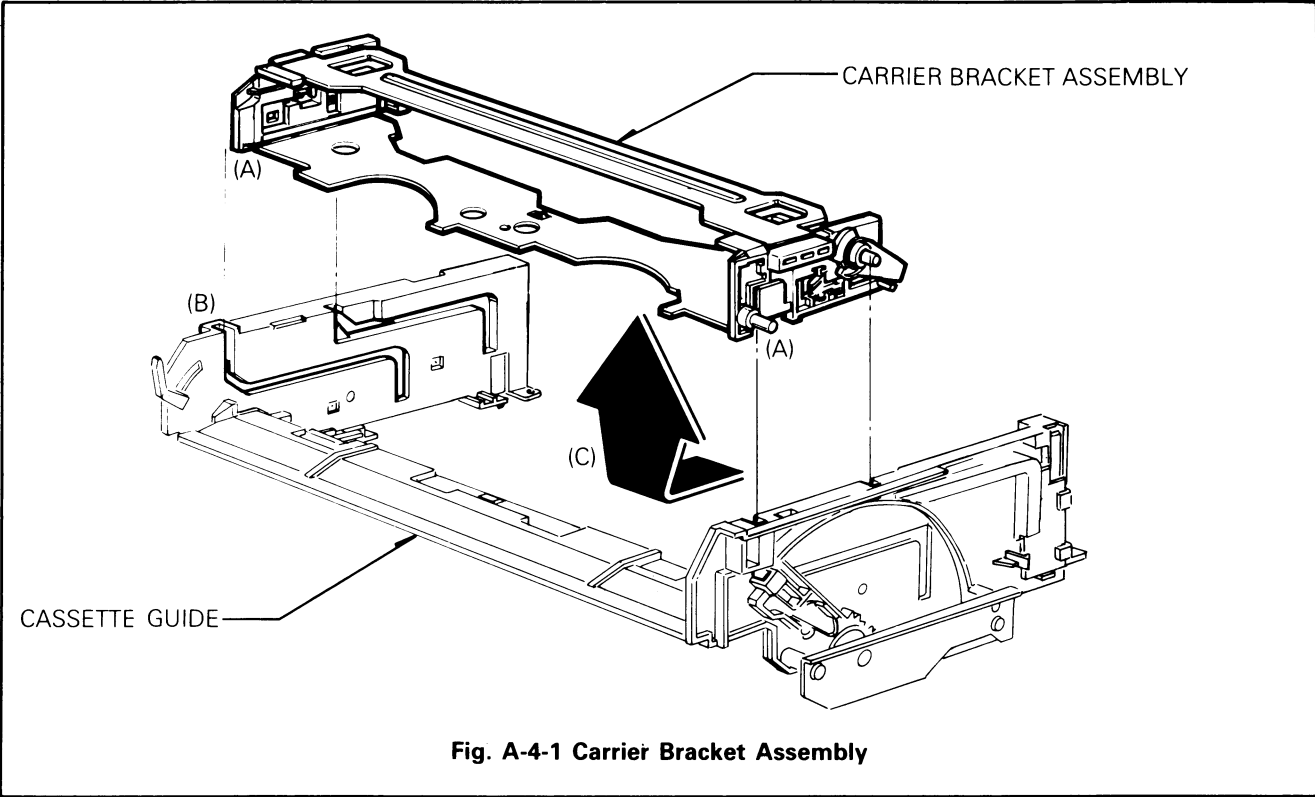
4. Carrier Bracket Assembly

4-1. Carrier Bracket Assembly(Fig. A-4-1)

- 1) Remove the Carrier Bracket Assembly by moving it in the direction of arrow(C).

* NOTE

- 1) When reassembling, be sure that parts(A) of Carrier Bracket Assembly are seated in parts(B) of Bracket(L),(R).



4-2. Cassette Opener(Fig. A-4-2)

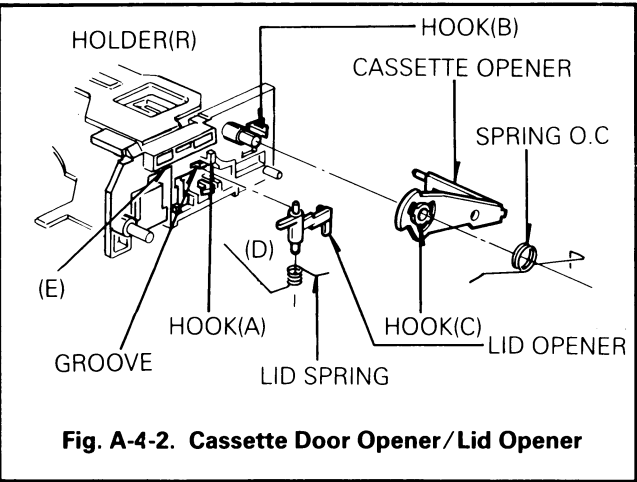
- 1) Release the spring O.C from the Hook(A) and then release it from Hook(C) of cassette opener.
2) Remove the cassette opener by releasing the Hook(B) from the Holder(R).

4-3. Lid Opener(Fig. A-4-2)

- 1) Remove the lid opener by pushing it outward.

* NOTE

- 1) When reassembling, seat the upper part of the lid opener in the grooved of Holder(R) and push it inward.

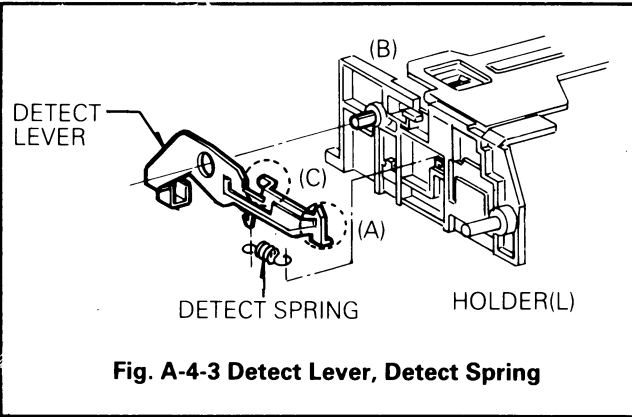


4-4. Detect Lever and Detect Spring

- 1) Remove the spring detect.
2) Lower the side(A) of Detect Lever and then remove the Detect Lever by pushing it outward.

* NOTE

- 1) When reassembling, make sure that the part(C) of Detect Lever set in the part(B) of Holder(R).

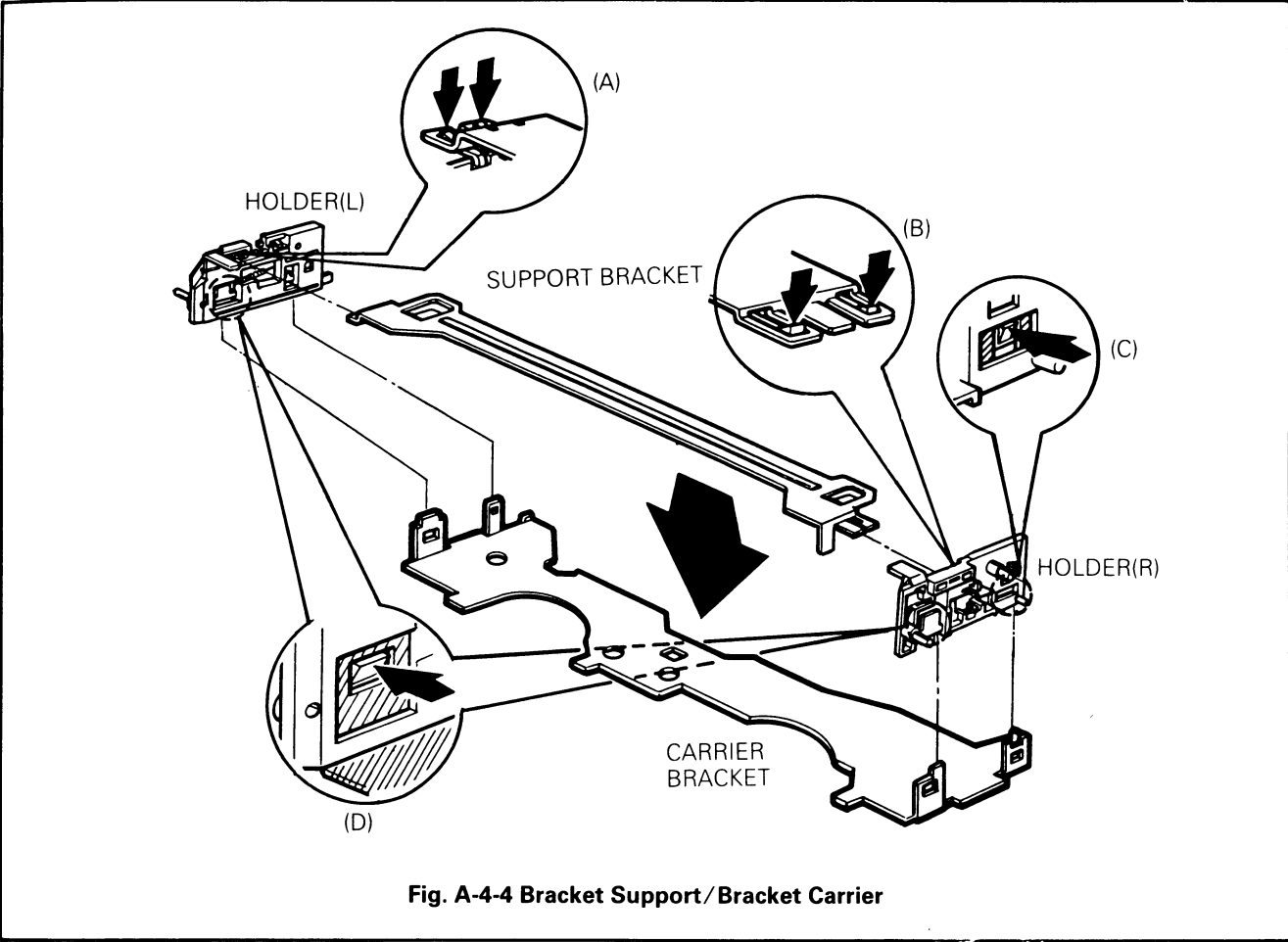


4-5. Bracket Support (Fig. A-4-4)

- 1) Take the Support Bracket out by releasing hooks(A),(B).

* NOTE

- 1) When disassembling and reassembling, be careful because heavy force can damage the hooks.



4-6. Carrier Bracket Assembly(Fig. A-4-4)

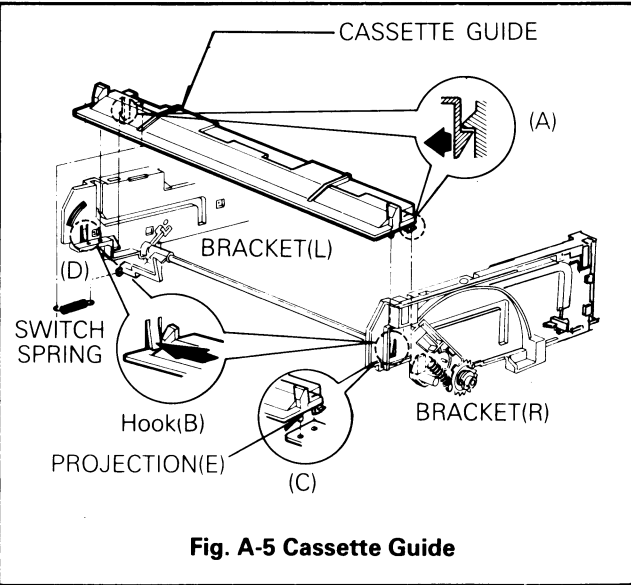
- 1) Remove the Carrier Bracket by releasing hooks(C),(D).

5. Cassette Guide(Fig. A-5)

- 1) Remove the Switch Spring with the Front Loading Mechanism Assembly turned over.
2) Push two hooks(B) outward.
3) Remove the Cassette Guide by pushing two hooks(A) outward(if one is removed, the other will be easy to remove)

* NOTE

- 1) When reassembling
① Seat projections(E) of Cassette Guide in holes of Bracket Assembly(L),(R) and then engage the Hook(A).
② After finishing previous step, fix the Cassette Guide to the Bracket Assembly(L),(R) by pushing two hooks(B) inward.

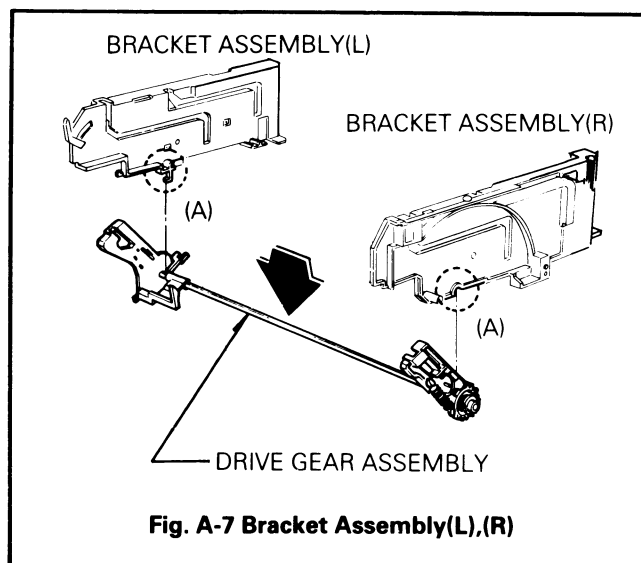
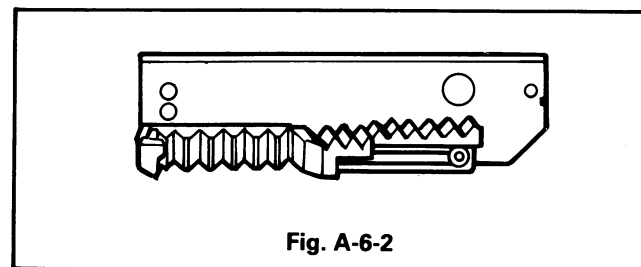
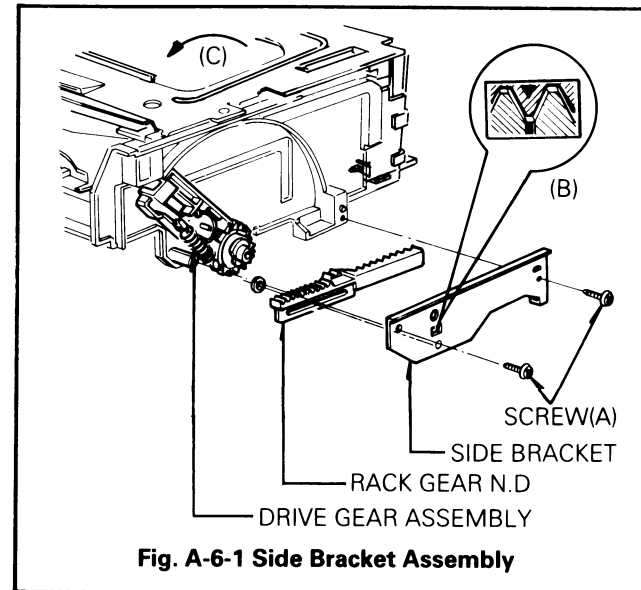


6. Side Bracket Assembly(Fig. A-6-1)

- 1) Remove two screws(A) and then remove the Side Bracket Assembly and the Rack Gear N.D.

* NOTE

- 1) When reassembling
 - ① Turn the Drive Gear Assembly in the direction of arrow (C).
 - ② Reassemble the Rack Gear N.D. to the Side Bracket Assembly, as shown in Fig. A-6-2, and then reassemble



it to the Bracket Assembly(L). This time the Assembling Figure should be the same as(B) at the rectangular hole of Bracket Side.

7. Bracket Assembly(L),(R)(Fig. A-7)

- 1) Separate the Bracket Assembly(L),(R) from the Gear Assembly Drive.

* NOTE

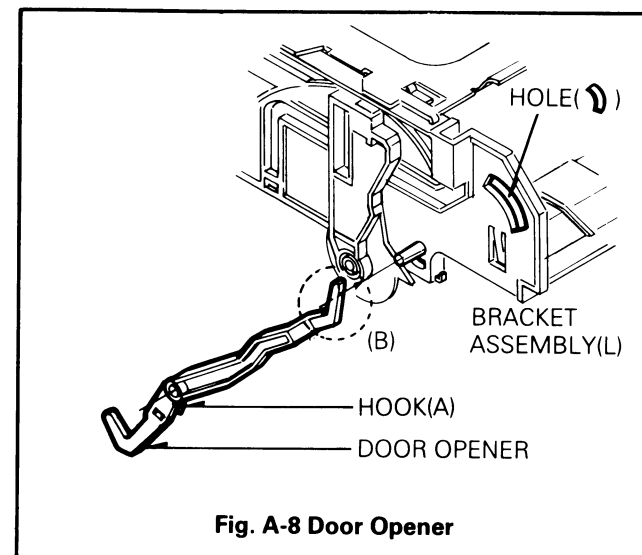
- 1) When reassembling, seat the shaft in the part(A) of Bracket Assembly(L),(R).

8. Door Opener(Fig. A-8)

- 1) Remove the Door Opener by pushing Hook(A) outward.

* NOTE

- 1) When reassembling, seat the part(B) of Door Opener in the hole () of Bracket(L).



9. Drive Gear Assembly

9-1. Drive Gear Assembly(Fig. A-9-1)

- 1) Remove the Drive Gear Assembly from the Bracket Assembly(L),(R).

9-2. Cushion Spring(Fig. A-9-1)

- 1) Remove the cushion spring from the Gear R.

9-3. Cap-D(Fig. A-9-1)

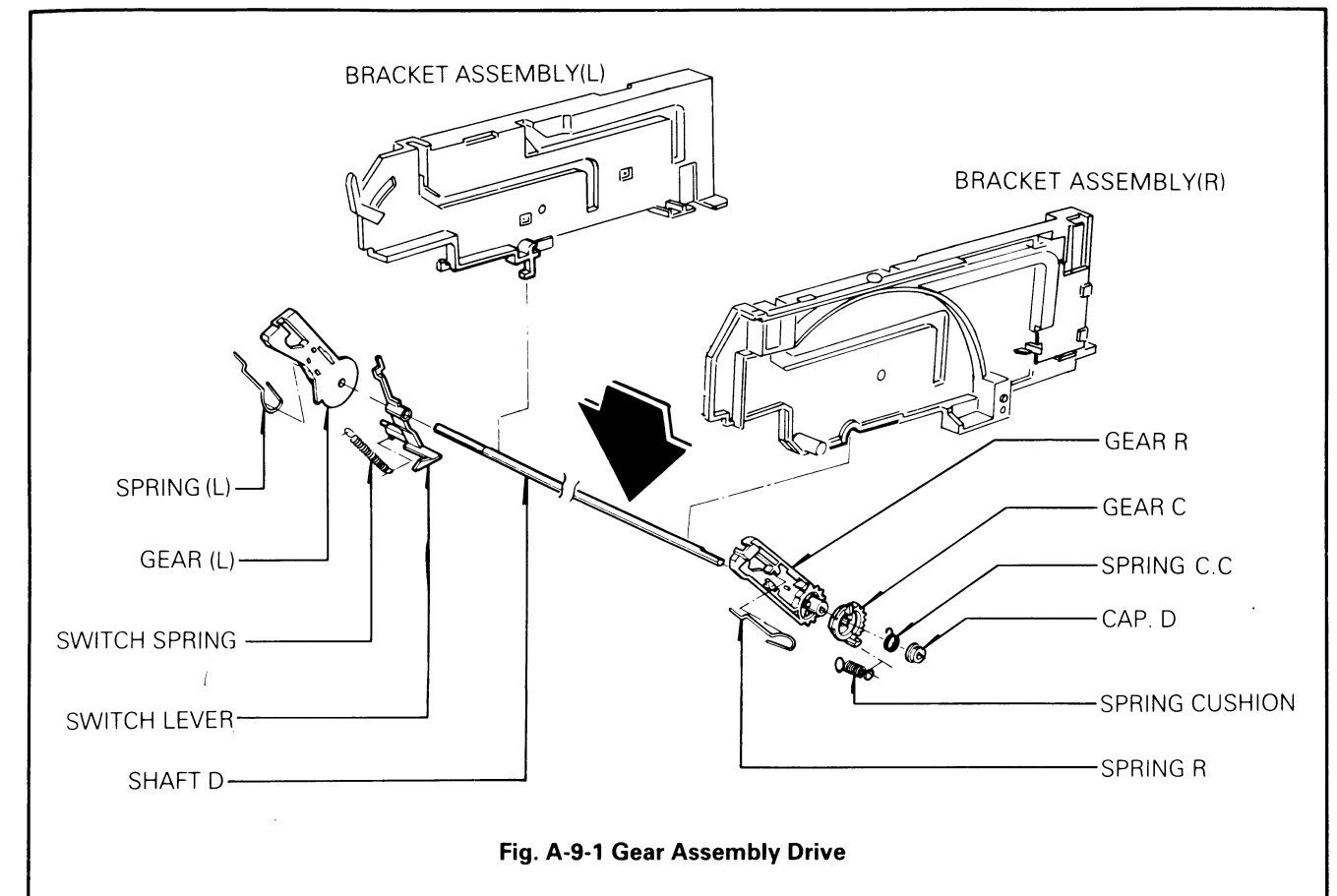
- 1) Remove the Cap-D by lifting it up.

9-4. Spring C.C(Fig. A-9-1)

- 1) Remove the Spring C.C from the Gear R.

9-5. Gear C(Fig. A-9-1)

- 1) Remove the Gear C by lifting up when the projection of Gear C is aligned with the hole of Gear R while rotating the Gear C in the counterclockwise direction.



* NOTE

- 1) When reassembling, seat the projections of Gear R in the holes of Gear C when the projection of Gear R is aligned with the hole of Gear C, and then keep the Gear C turned in the clockwise direction.

9-6. Gear R(Fig. A-9-1)

- 1) Lift up the Gear R from the Shaft.

9-7. Spring R(Fig. A-9-2)

- 1) Remove the Spring R by releasing Hooks.

* NOTE

- 1) When reassembling, be certain Spring R in the part(A) of Gear R.

9-8. Gear L(Fig. A-9-1)

- 1) Remove the Gear L from the shaft.

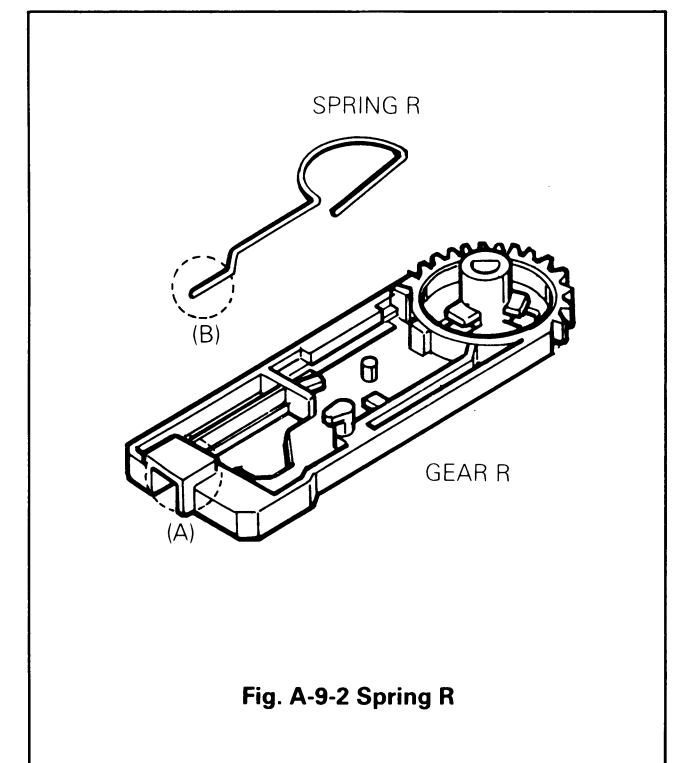
9-9. Spring L (Fig. A-9-2)

- 1) Remove the Spring L by releasing Hooks from the Gear L.

* NOTE:(Refer to the Spring R Section)

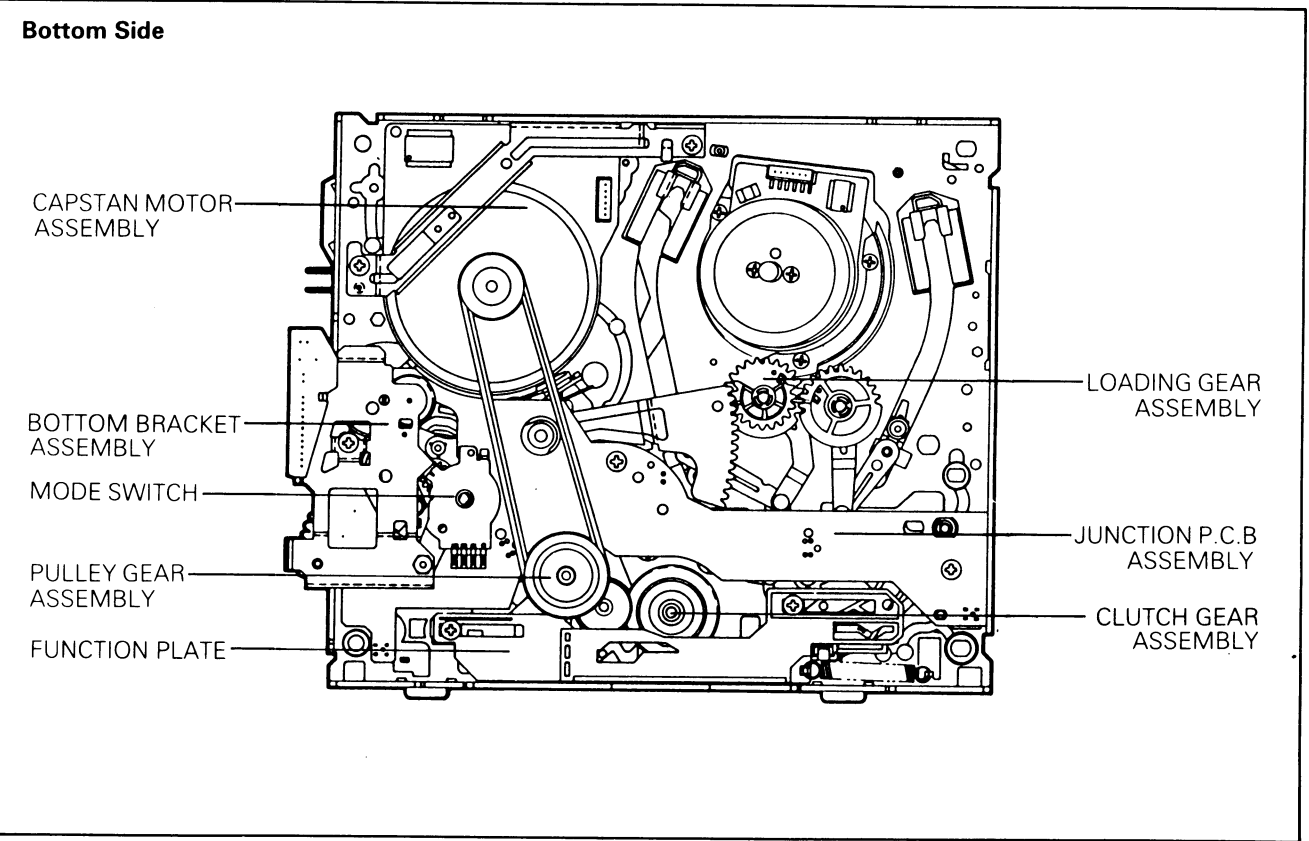
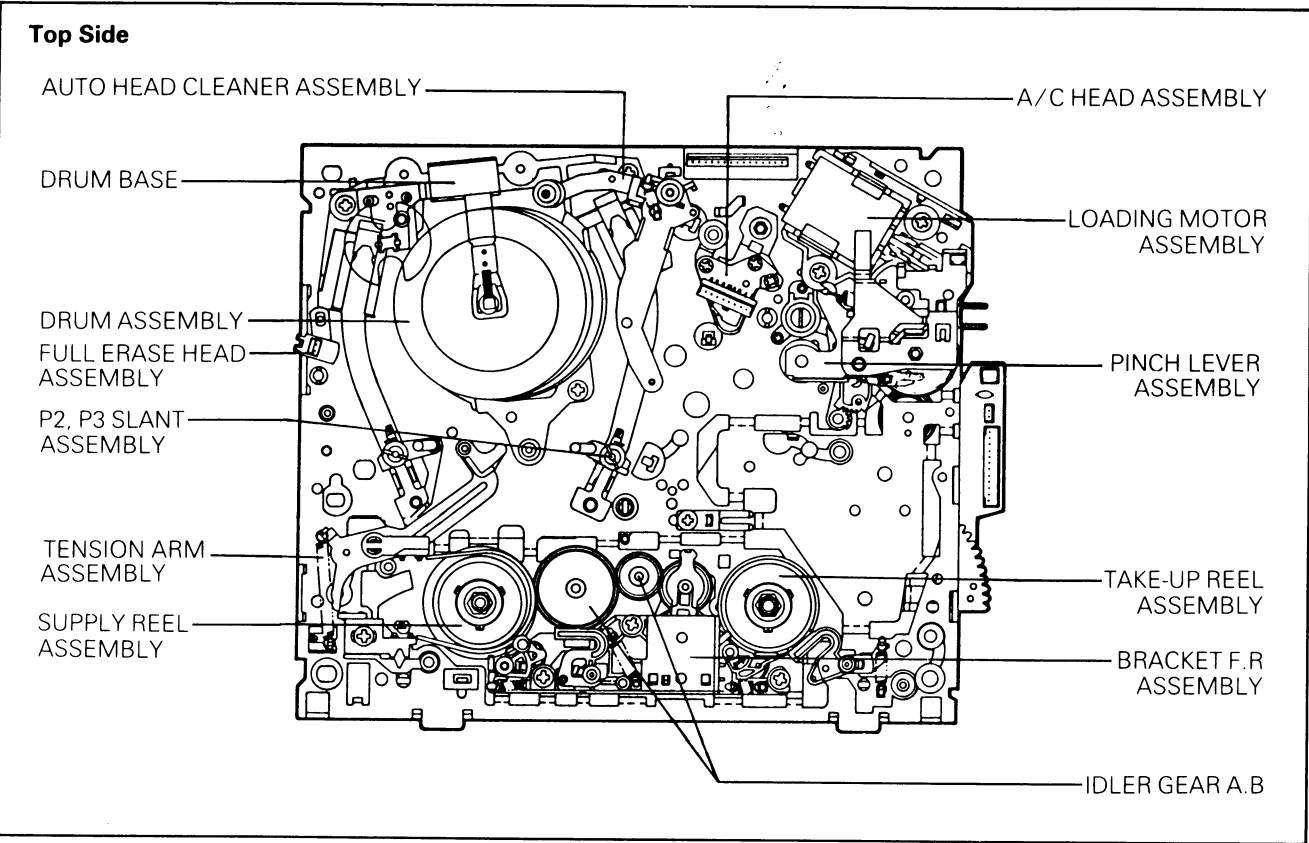
9-10. Switch Lever(Fig. A-9-1)

- 1) Remove the Switch Lever from the shaft.



DECK MECHANISM DISASSEMBLY

• Deck Mechanism Parts Location

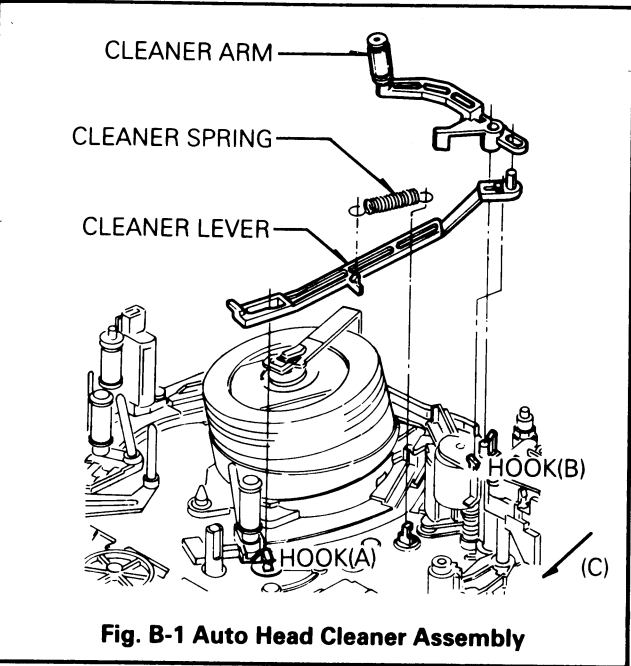


1. Auto Head Cleaner Assembly(Fig. B-1)

- 1) Remove the Cleaner Spring.
- 2) Remove the Cleaner Arm by pushing Hook(B) inward and then remove Cleaner Lever by pushing it in the direction of arrow(C).

* NOTE

- 1) When reassembling, do not touch the Video Head Tip with fingers or tools.



2. Drum Assembly and Drum Base(Fig. B-2)

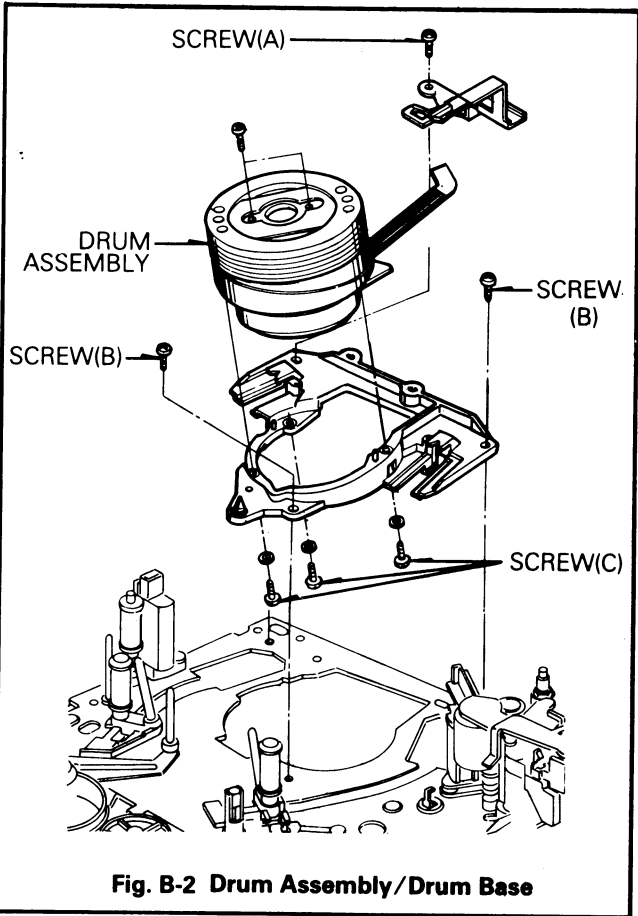
- 1) Remove the Auto Head Cleaner Assembly.
- 2) Unplug the connector with the Deck Mechanism Assembly turned over.
- 3) Loosen the screw(A) and then lift up the Drum Brush.
- 4) Remove two screws(B) and then lift up the Drum Assembly and Drum Base from the Deck Mechanism Assembly.
- 5) Separate the Drum Assembly from the Drum Base by Loosening three screws(C) on the back of Drum Base.

* NOTE

- 1) When disassembling and reassembling
 - ① Do not touch the Video Head tip with fingers or tools. (Give special attention to disassembling and reassembling of Auto Head Cleaner Assembly)
 - ② After reinstalling the Drum Brush, the Drum Brush should be aligned with the center of vertical axis of Drum Assembly.
 - ③ After completing the reassembly, adjust the transportation system and the Servo P.G.

3. Upper and Lower Drum Assembly (Fig. B-3)

- 1) Remove the Drum Assembly and Drum Base from the

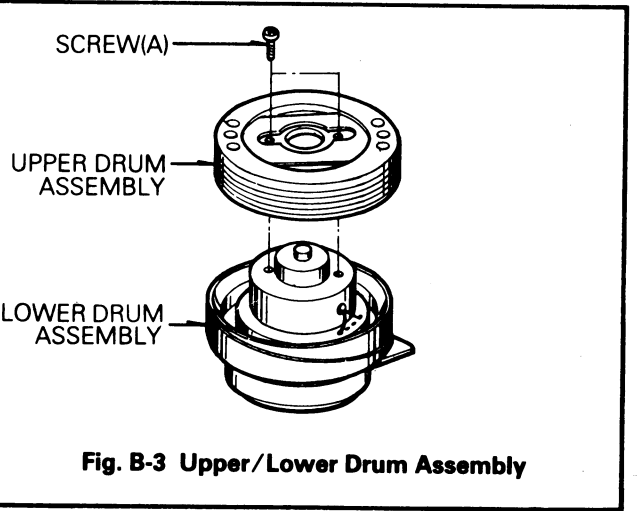


Deck Mechanism Assembly.

- 2) Separate the Drum Assembly from the Drum Base.
- 3) Remove two screws(A).
- 4) Separate the upper Drum Assembly from the Lower Drum Assembly.

* NOTE

- 1) When disassembling and reassembling
 - ① Do not touch the Video Head Tip with fingers or tools.
 - ② Make sure that the color(white) marked on the P.C.B of the upper Drum should coincide with the color(Green) marked on the Flange Assembly.



4. A/C(Audio/Control) Head Assembly (Fig.B-4)

- 1) Unplug the connector
- 2) Remove the Nut(A), and then lift up the A/C Head Assembly.
- 3) Remove the Azimuth Adjusting Screw.
- 4) Remove two screws(B),(D) and then separate the A/C Head Assembly from the Base A/C Head Assembly.

*** NOTE**

- 1) When disassembling
 - ① First of all, release the spring A/C.
 - ② Do not touch the A/C Head Tip with fingers or tools.
 - ③ After reinstalling the Audio Control Head Assembly, adjust the Tilt, Azimuth and Height of A/C Head.

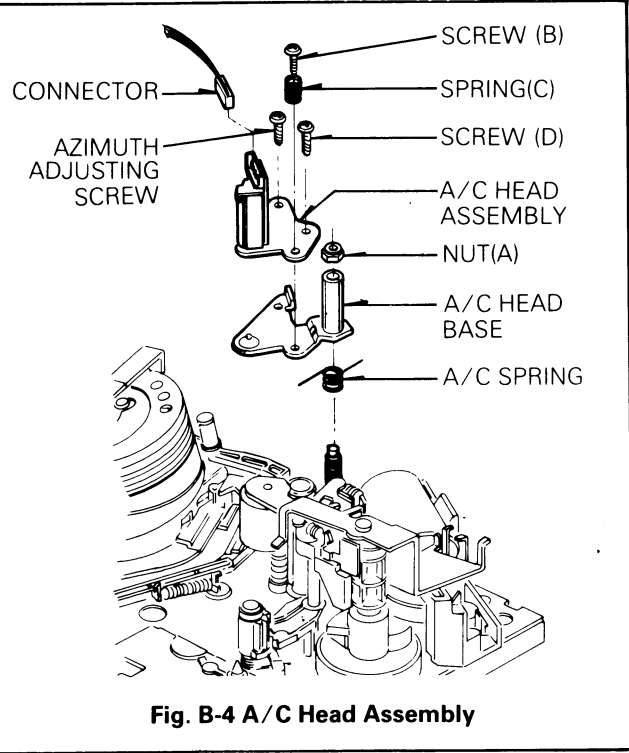


Fig. B-4 A/C Head Assembly

5. Pinch Lever Assembly(Fig. B-5)

- 1) Remove one Nut, and then remove the Dew Bracket.
- 2) Lift up Pinch Lever Assembly.
- 3) Remove the Pinch Spring, and remove the Pinch Lever.
- 4) Remove the Stopper Spring and remove the Pinch Stopper by lifting it up when the Hook of Pinch Stopper is aligned with the hole of Pinch Arm while rotating the Pinch Stopper in the counterclockwise direction.
- 5) Remove the Pinch Cap, and then remove the Pinch Roller Assembly.

*** NOTE**

- 1) When disassembling and reassembling
 - ① Be careful not to get any foreign substance on the Roller.
 - ② When disassembling the Pinch Cap, be careful not to damage the Pinch Arm.

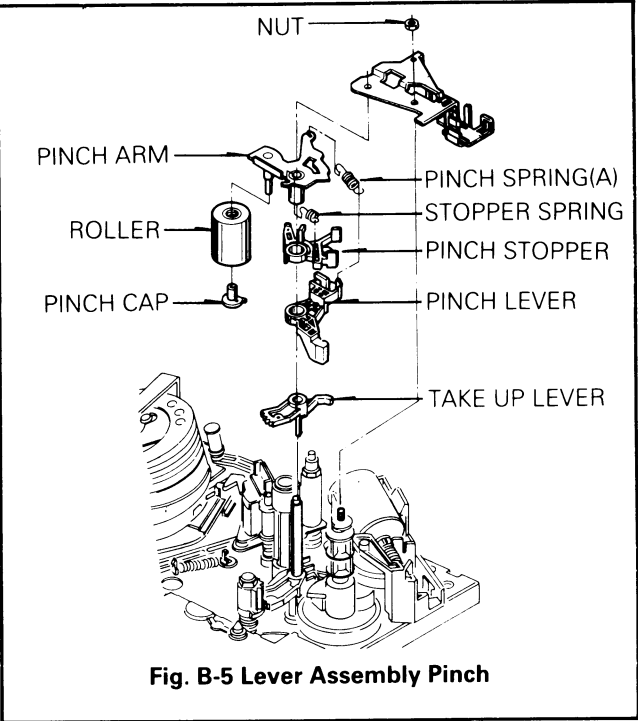


Fig. B-5 Lever Assembly Pinch

6. Loading Motor Assembly(Fig. B-6-1, B-6-2)

- 1) Remove the Dew Bracket.
- 2) Unplug the connector from the Junction P.C.B Assembly
- 3) Remove two screws(A).
- 4) Remove the worm wheel by pushing it down.
- 5) Remove the Loading Motor Assembly by pushing (C) and (D) outward.
- 6) Remove the worm Gear Assembly from the Loading Motor Assembly by pushing it.

*** NOTE**

- 1) When reassembling
 - ① Make sure that the worm assembly is seated in the axis of Loading Motor.
 - ② Two grooves(G) of Loading Motor should be turned up and two projections(F) of Bracket Assembly should be seated in each at the two holes(E)(Fig. B-6-1).
 - ③ Take notice of the polarity of the Loading Motor.

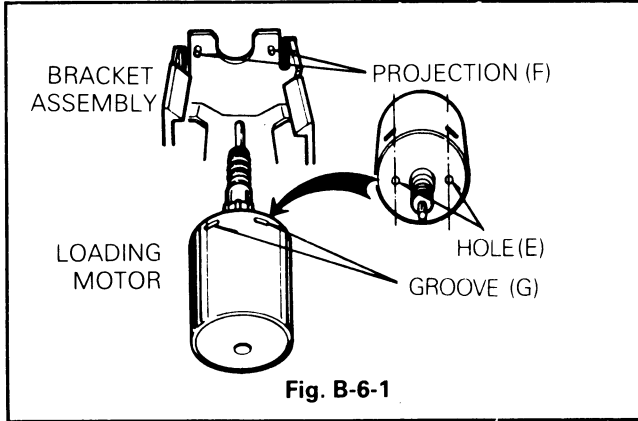


Fig. B-6-1

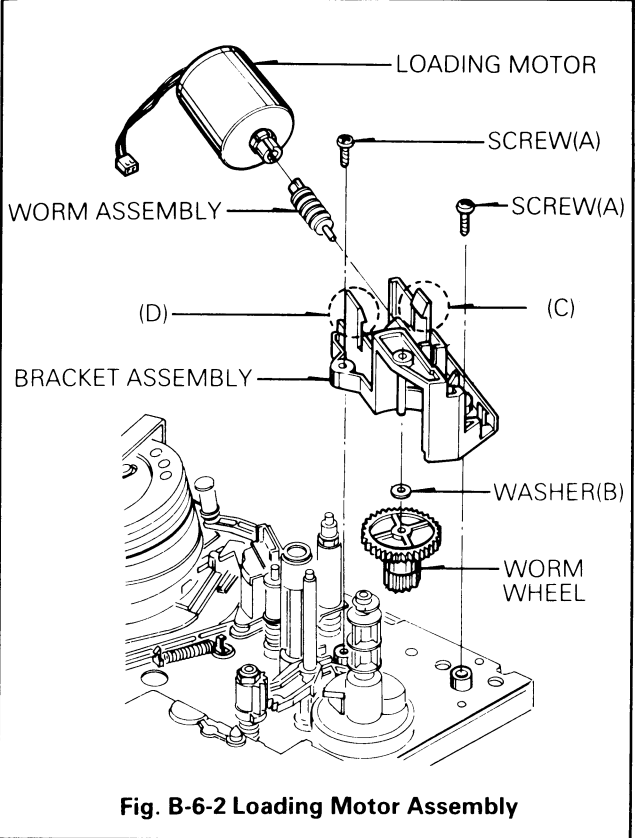


Fig. B-6-2 Loading Motor Assembly

7. Take Up Lever(Fig. B-7)

- 1) Remove the Dew Bracket.
- 2) Remove the Pinch Lever Assembly.
- 3) Remove the Take-Up Lever by pushing the hook(A) outward.

*** NOTE**

- 1) When disassembling and reassembling
 - ① When disassembling the Take-Up Lever, be careful not to break the Hook(A).
 - ② When reassemble the Take-Up Lever, align the appendant Gear of Lever Take-Up with the appendant Gear of Take-up Arm
 - ③ Reassemble the Take-Up Lever completely by hooking (A).

8. Take Up Arm Assembly(Fig. B-8)

- 1) Remove the Dew Bracket, Pinch Gear, and the Take-Up Lever
- 2) Remove one Nut(A).
- 3) Remove the Take-Up Arm Assembly by lifting it up.
- 4) Remove the spring(B).

*** NOTE**

- 1) When reassembling
 - ① Align the Gear of Take-Up Arm with the Gear of Take-Up Lever.

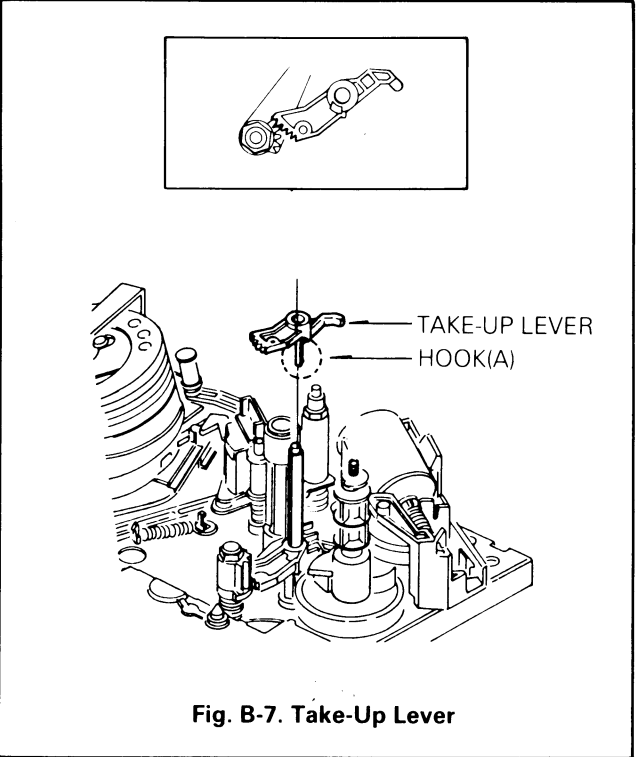


Fig. B-7. Take-Up Lever

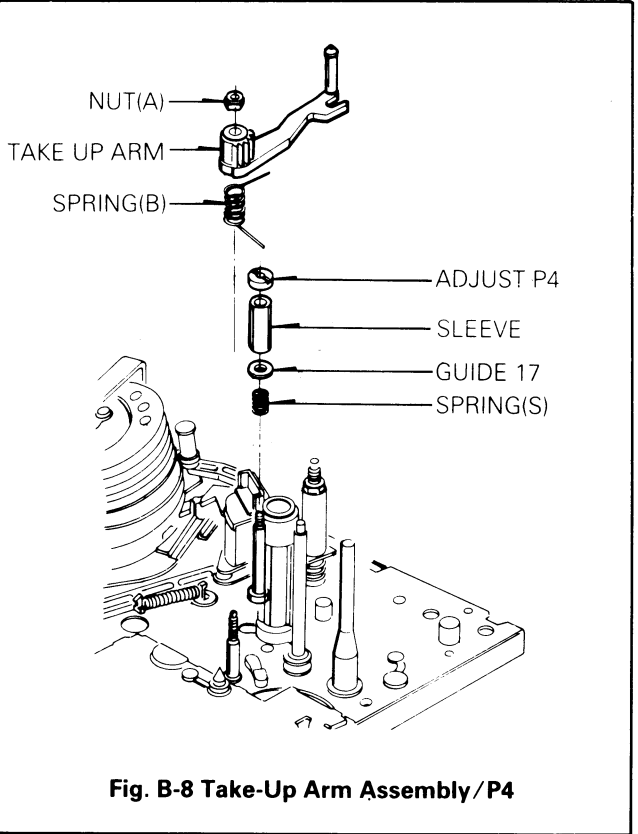


Fig. B-8 Take-Up Arm Assembly/P4

9. P4 Assembly(Fig. B-8)

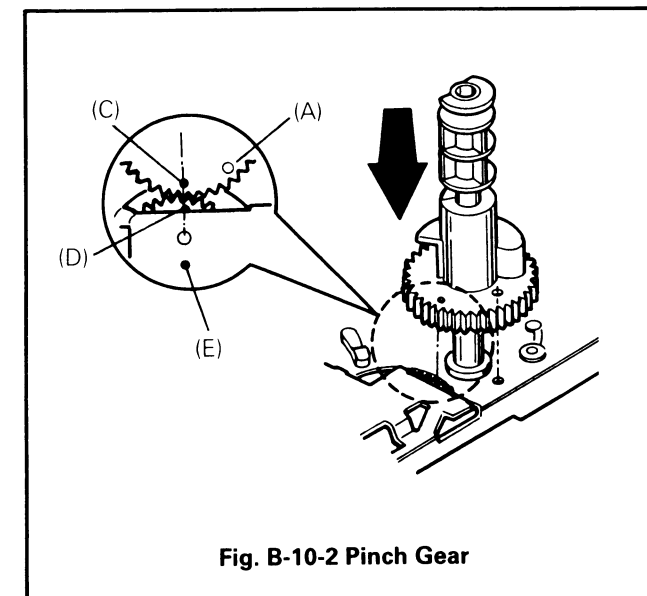
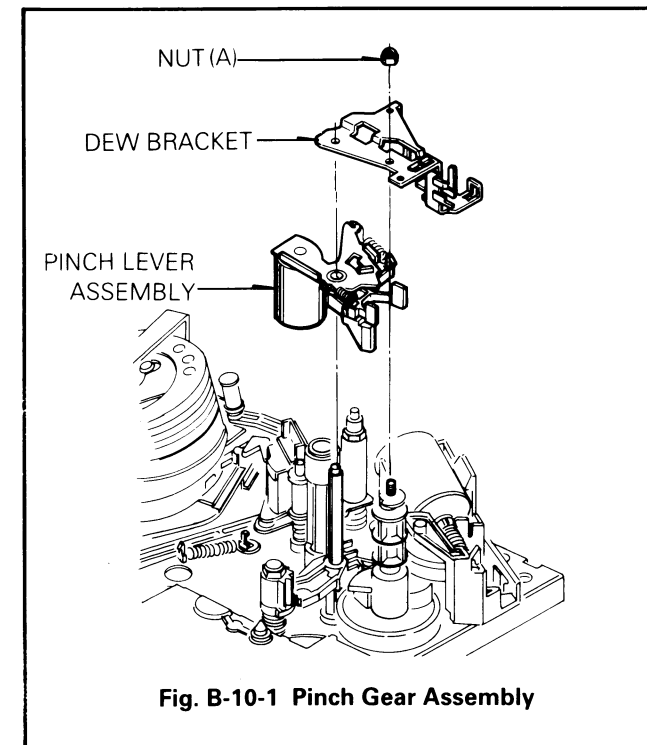
- 1) Remove the Adjust P4.
- 2) Remove the Sleeve.
- 3) Remove the Guide 17.
- 4) Remove the Spring.

10. Pinch Gear

- 1) Remove one Nut(A) and then remove the Dew Bracket.
- 2) Remove the Pinch Lever Assembly by lifting it up.
- 3) Remove the Loading Motor Assembly.
- 4) Remove the Take Up Lever.
- 5) Remove the Pinch Gear Assembly.

* NOTE

- 1) When reassembling, align the hole(A) of Pinch Gear with the hole of chassis, and the hole(C) of Pinch Gear with the groove(D) of the P.C.Gear. Hole(E) of chassis should be aligned with the hole of P.C.Gear.



11. FE(Full Erase) Head Assembly(Fig. B-11)

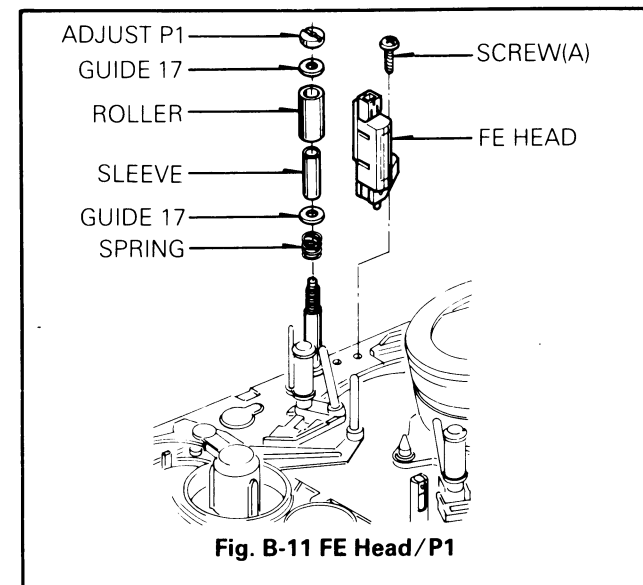
- 1) Unplug the connector.
- 2) Remove one screw(A), and then remove the FE Head.

* NOTE

- 1) When disassembling and reassembling
 - ① Do not touch the Video Head Tip with fingers or tools.

12. P1 Assembly(Fig. B-11)

- 1) Remove the Adjust P1.
- 2) Remove the Guide 17.
- 3) Remove the Roller.
- 4) Remove the Sleeve.
- 5) Remove the Guide 17.
- 6) Remove the Spring.

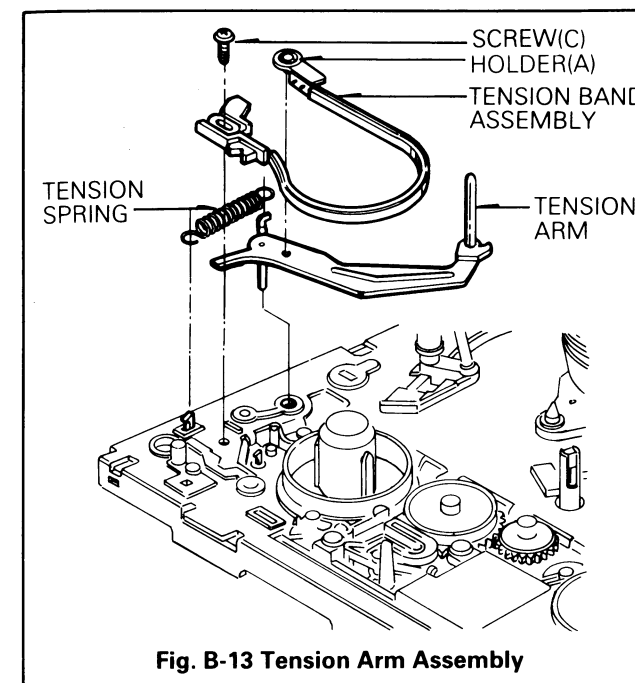


13. Tension Arm Assembly(Fig. B-13)

- 1) Remove one screw(C).
- 2) Remove the Tension Spring.
- 3) Remove the Tension Arm Assembly by pushing hooks outward with the Deck Mechanism Assembly turned over.
- 4) Remove the Tension Band Assembly from the Tension Arm by pushing Hooks of Holder(A).

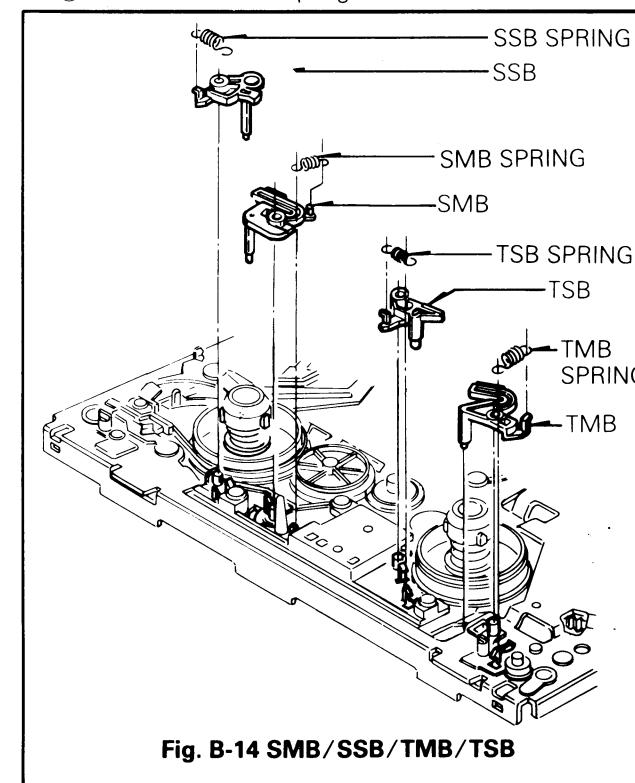
* NOTE

- 1) When disassembling and reassembling, give special attention to the disassembling and reassembling of Tension Arm Assembly, because the Tension Band is interposed between the Supply Reel and the Soft Brake.



14. Supply Soft/Supply Main/Take-Up Soft/Take-Up Main Brake Assembly

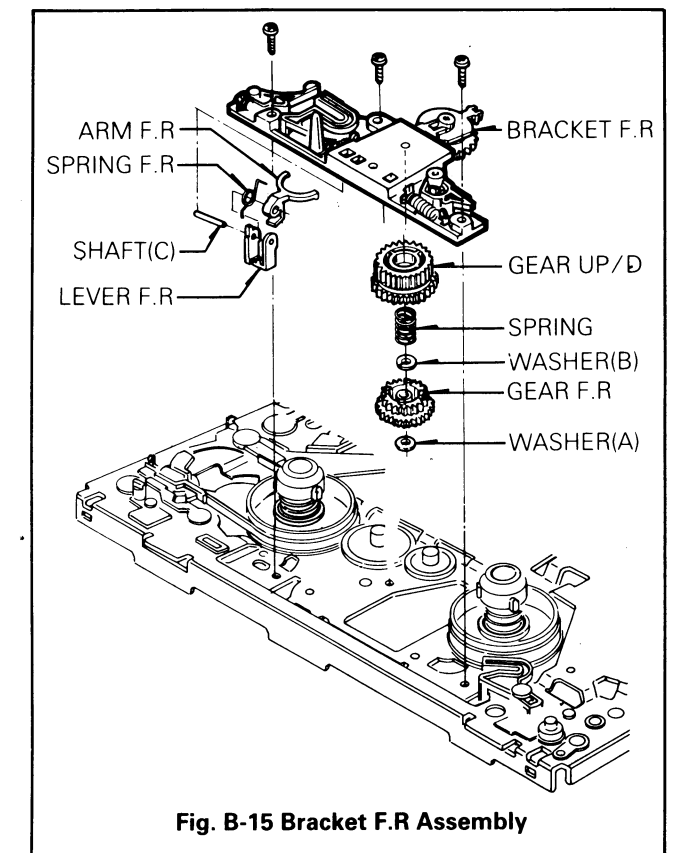
- 1) Supply Soft Brake(SSB)
 - ① Remove the SSB Spring.
 - ② Remove the SSB.
- 2) Supply Main Brake(SMB)
 - ① Remove the SMB Spring.
 - ② Remove the SMB.
- 3) Take Up Soft Brake(TSB)
 - ① Remove the TSB Spring.



- ② Remove the TSB.
- 4) Take-Up Main Brake(TMB)
 - ① Remove the TMB Spring.
 - ② Remove the TMB.

15. Bracket F/R(FF/Rewind) Assembly (Fig. B-15)

- 1) Remove the TMB.
- 2) Remove the Washer(A), and then remove the Gear F.R.
- 3) Remove three screws, and then remove Bracket F/R Assembly from the Deck Mechanism Assembly.
- 4) Remove the Washer(B), and spring Up/D, and then remove the Gear Up/D.
- 5) Remove the shaft(C), and then remove the Arm F.R, Lever F.R and Spring F.R.

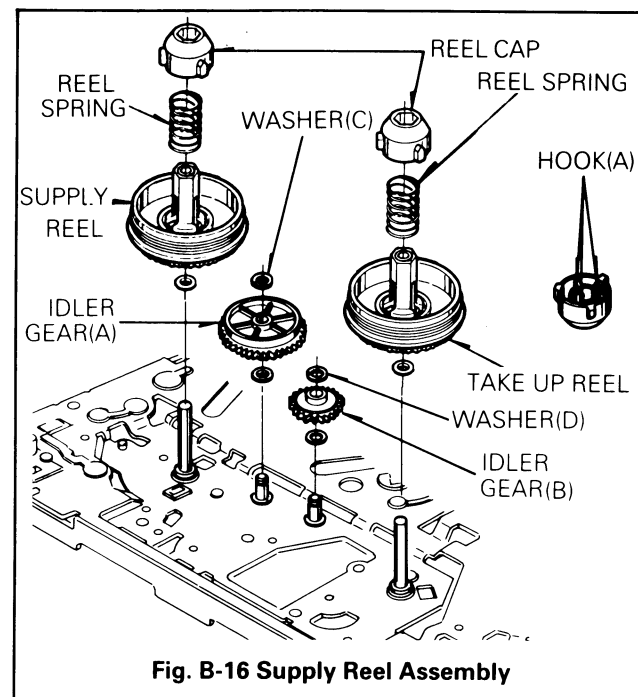


16. Supply Reel Assembly(Fig. B-16)

- 1) Remove the Tension Band Assembly.
- 2) Remove the Bracket F/R.
- 3) Lift up the Supply Reel Assembly from the Deck Mechanism Assembly.
- 4) Separate the Reel Cap from the Supply Reel by taking it out of Hooks(A).

* NOTE

- 1) When reassembling
 - ① Make sure that the Supply and Take Up Reel are not exchanged.
 - ② After reinstalling the Supply Reel Assembly, Adjust the Tension.

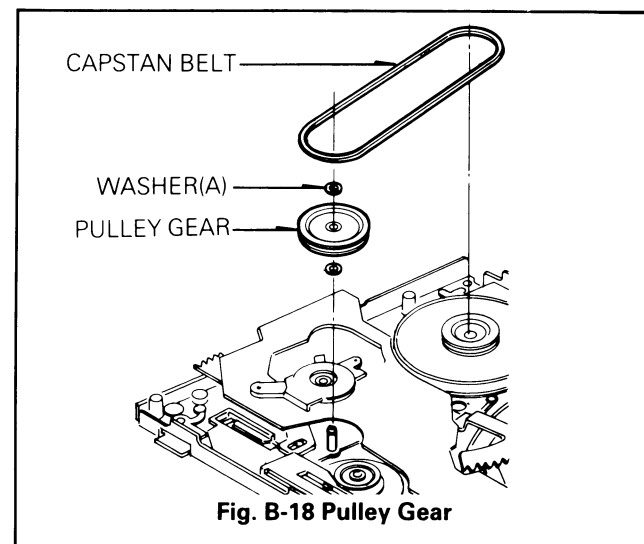


17. Idler Gear(A), (B)(Fig. B-16)

- 1) After removing the Supply Reel, and supply Main Brake Assembly, remove the washer(C) and remove the Idler Gear(A).
- 2) Remove the Washer(D) and remove the Idler Gear(B).

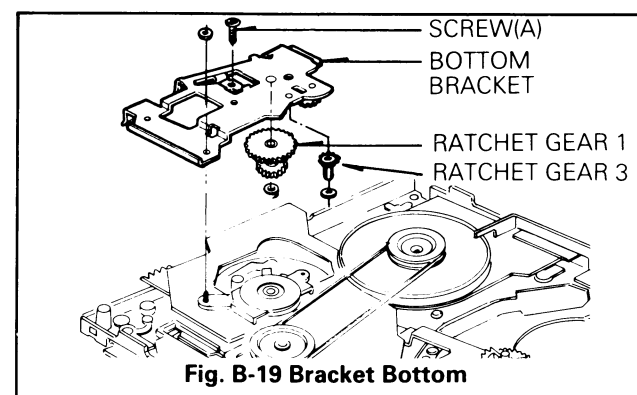
18. Pulley Gear Assembly(Fig. B-18)

- 1) Turn over the Deck Mechanism Assembly.
- 2) Remove the Capstan Belt.
- 3) Remove the Washer(A) and lift up the Pulley Gear.



19. Bracket Bottom Assembly(Fig. B-19)

- 1) Remove one screw(A).
- 2) Remove one Hexagonal Nut, and then lift up the Bracket Bottom Assembly.
- 3) Remove one Washer, and lift up the Ratchet Gear 1.



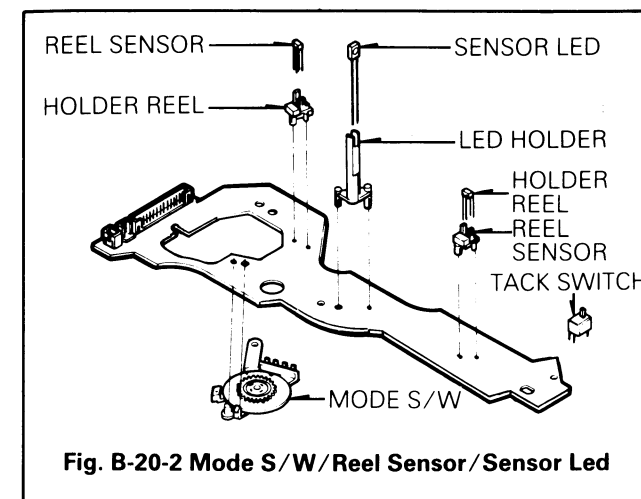
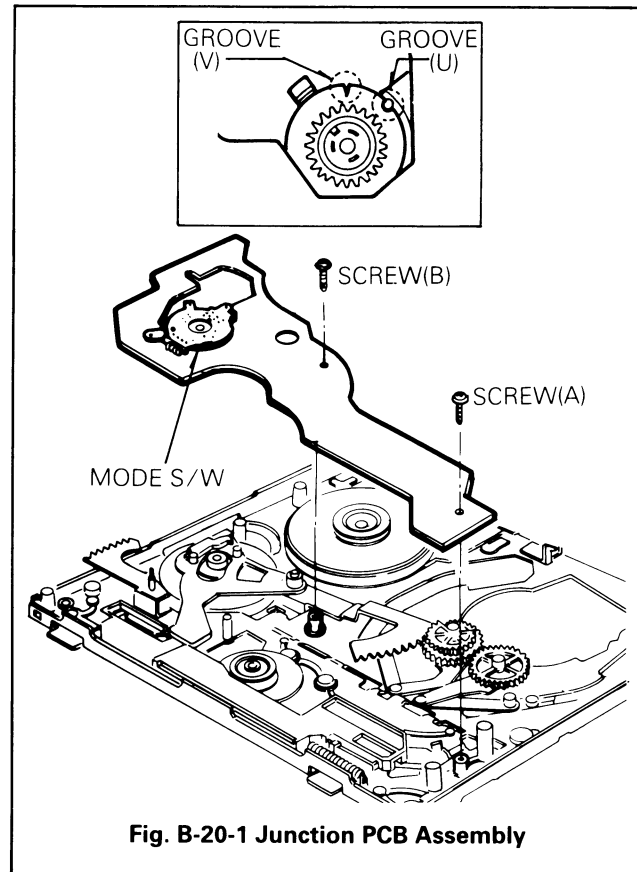
- 4) Remove the washer, and then remove Ratchet Gear 3 from the Bottom Bracket.

20. Junction PCB(Printed Circuit Board) Assembly (Fig. B-20-1)

- 1) Remove the Bottom Bracket Assembly.
- 2) Remove two screws(A),(B) and then remove the Junction P.C.B Assembly.
- 3) Remove the Mode Switch from the Junction P.C.B Assembly.
- 4) Remove the Reel Sensors, Sensor LEDs and each holder from the Junction P.C.B(Fig. B-20-2).

* NOTE

- 1) When reassembling the Mode Switch, the groove(V) and (U) of Mode Switch should be at their original place in the Eject Mode.

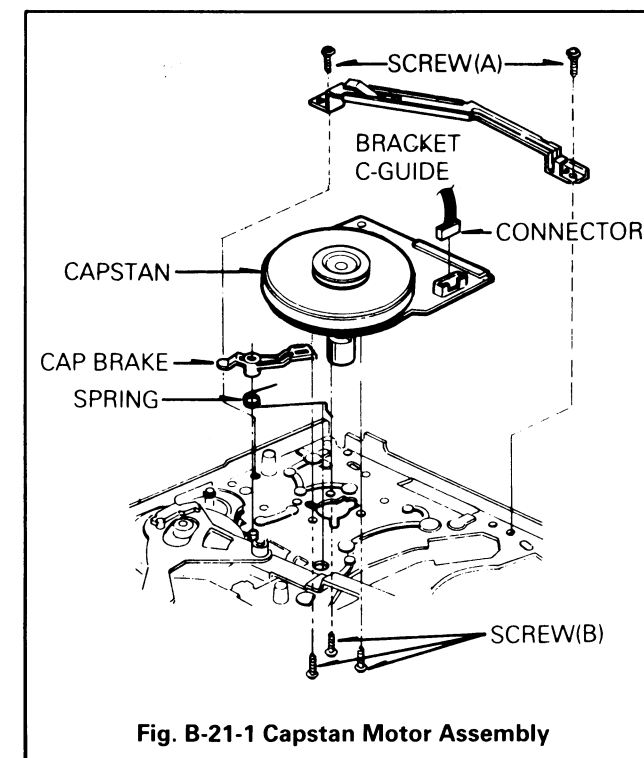


21. Capstan Motor and Brake Assembly (Fig. B-21-1)

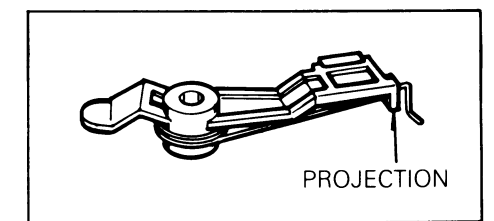
- 1) Remove the Junction P.C.B Assembly
- 2) Hook the end of Capstan Brake Spring to the projection of Capstan Brake and then remove the Capstan Brake Assembly by lifting it up(Fig. B-21-2).
- 3) Remove two Screws(A), and then remove the Bracket C-Guide.
- 4) Remove the Connector.
- 5) Remove three screws(B), and then remove the Capstan Motor Assembly from the Deck Mechanism Assembly.

* NOTE

- 1) When disassembling and reassembling, hook end of the spring on the projection of Cap-Brake and remove it by lifting it up. Reassemble it in the opposite manner.



A: BEFORE REASSEMBLING OR AFTER DISASSEMBLING



B: AFTER REASSEMBLING OR BEFORE DISASSEMBLING

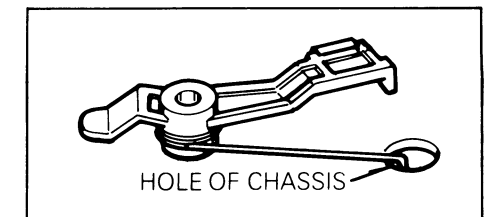


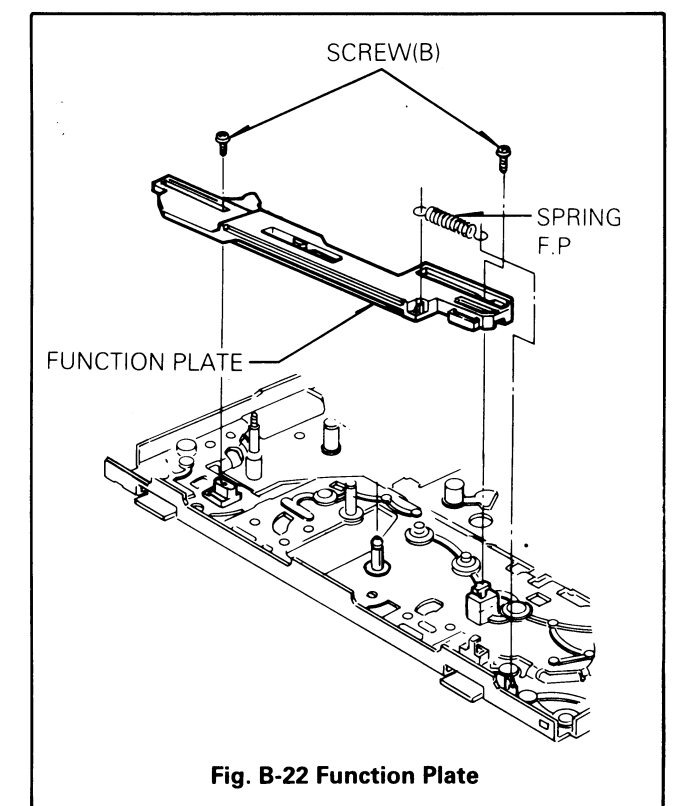
Fig. B-21-2 CAP Brake Assembly

22. Function Plate(Fig. B-22)

- 1) Remove two screws(B) in Eject Mode.
- 2) Remove the Function Plate Spring.
- 3) Remove the Function Plate.

* NOTE

- 1) When reassembling, the groove of Lower part of Function Plate should be aligned with the shaft of Tension Lever Assembly(Fig. B-28).



23. Ratchet Lever Assembly(Fig. B-23)

- 1) Remove the Function Plate.
- 2) Remove the Junction P.C.B Assembly.
- 3) Remove the Washer(A) and then remove the Ratchet Lever Assembly.
- 4) Remove the Ratchet Spring.
- 5) Remove the Ratchet Lever from the Ratchet 17 by lifting it up when the hook of it is aligned with the hole of Ratchet 17 while rotating it counterclockwise direction.
- 6) Remove the Washer(B), and turn over the Ratchet 17 and then remove the Slant Pin, Spring F, Lever.

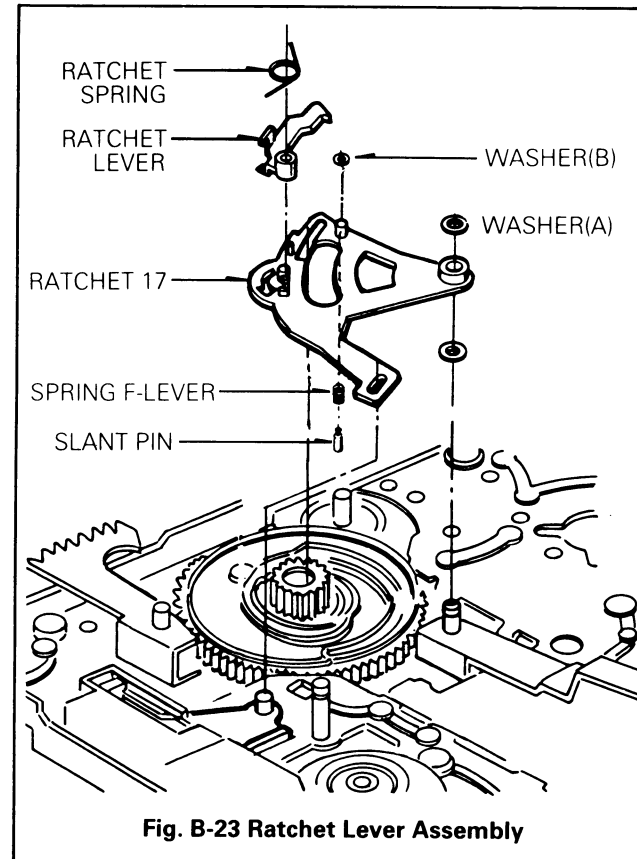


Fig. B-23 Ratchet Lever Assembly

24. Cam Gear/Rack Gear T/Rack Gear FL(Fig. B-24-2)

- 1) Remove the washer(A) and remove the Ratchet Lever Assembly. (Fig. B-24-1).
- 2) Remove the washer(B), and then remove the Cam Gear (Fig. B-24-2).
- 3) Remove the Rack Gear F.L. (Fig. B-24-3)
- 4) Remove the Rack Gear T. (Fig. B-24-3)

* NOTE

- 1) When reassembling
 - ① Align the Projection of Rack Gear T with the hole of Loading Gear.
 - ② Drive the Rack Gear F.L in the direction of arrow(D).
 - ③ Hole of Cam should be aligned with the hole of chassis, and the groove(■) of Cam Gear should be aligned with the hole of PC Gear (Fig. B-25)

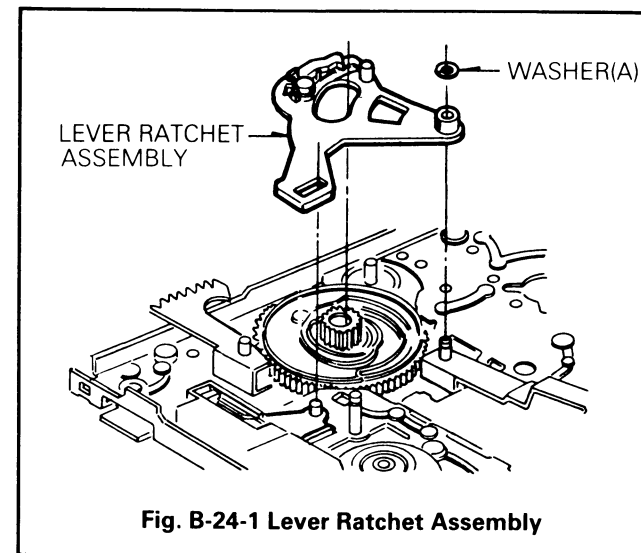


Fig. B-24-1 Lever Ratchet Assembly

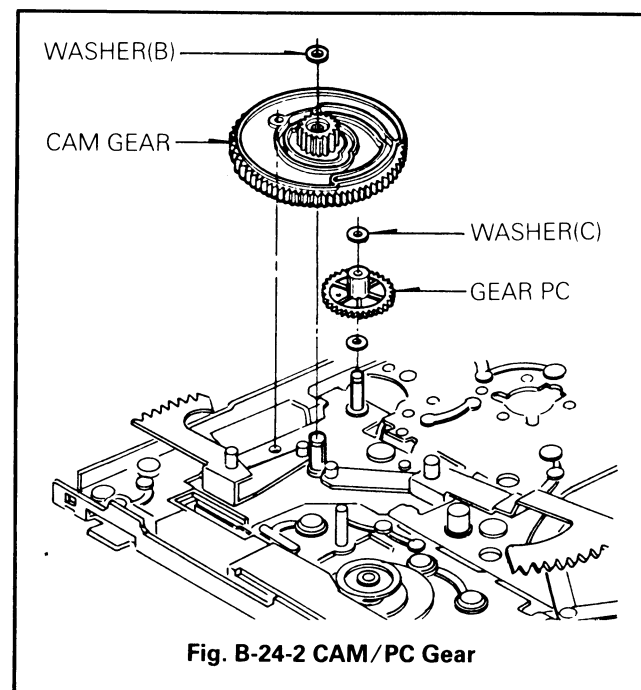


Fig. B-24-2 CAM/PC Gear

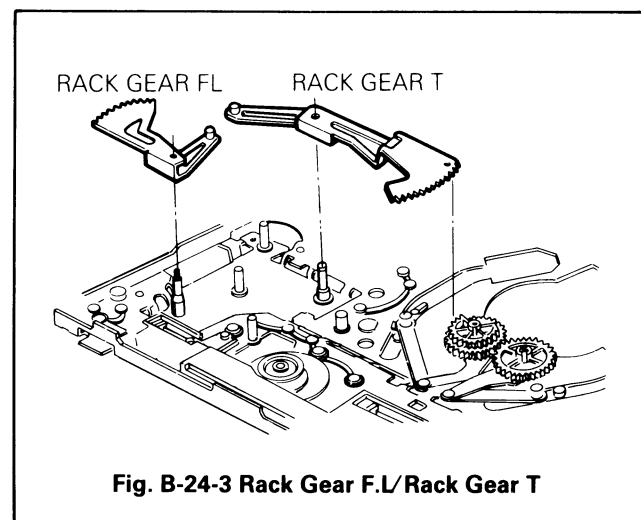


Fig. B-24-3 Rack Gear F.L/Rack Gear T

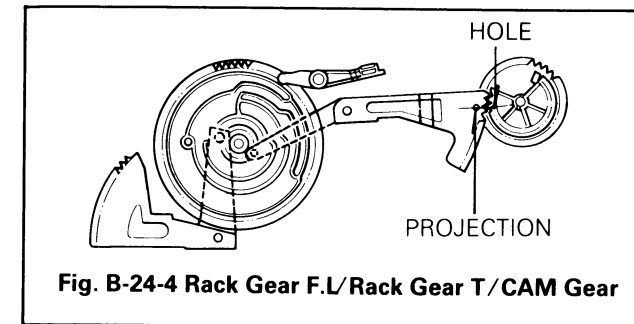


Fig. B-24-4 Rack Gear F.L/Rack Gear T/CAM Gear

25. PC Gear(Fig. B-25)

- 1) Remove the washer(C).
- 2) Remove the P.C Gear by lifting it up.

* NOTE

- 1) When reassembling
 - ① The Groove of PC Gear should be aligned with the groove(V) of Cam Gear, and another hole of it should be aligned with the hole of chassis (Fig. B-25).

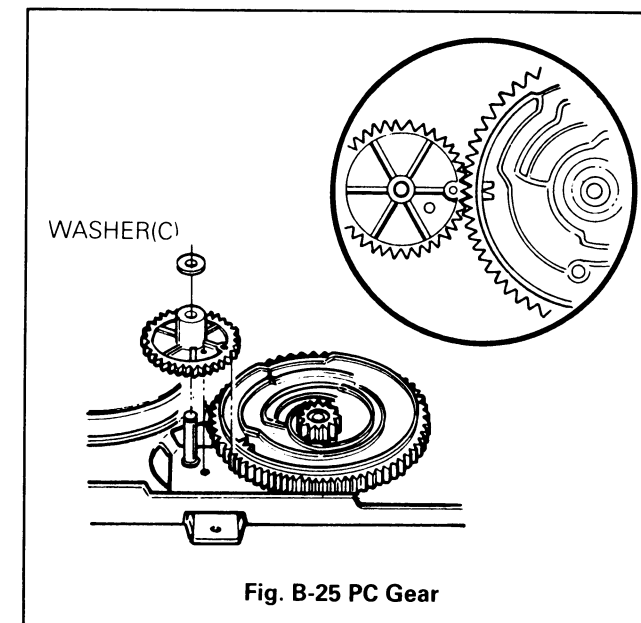


Fig. B-25 PC Gear

26. P2 and P3 Slant Assembly(Fig. B-26)

- 1) After finishing the disassembly of Drum Assembly, remove the P2 and P3 Slant Assembly by turning the Loading Gear(R) in the clockwise direction. (Loading direction)
- 2) Loosen the set screws.
- 3) Remove the Roller Guide from the Slant Base.

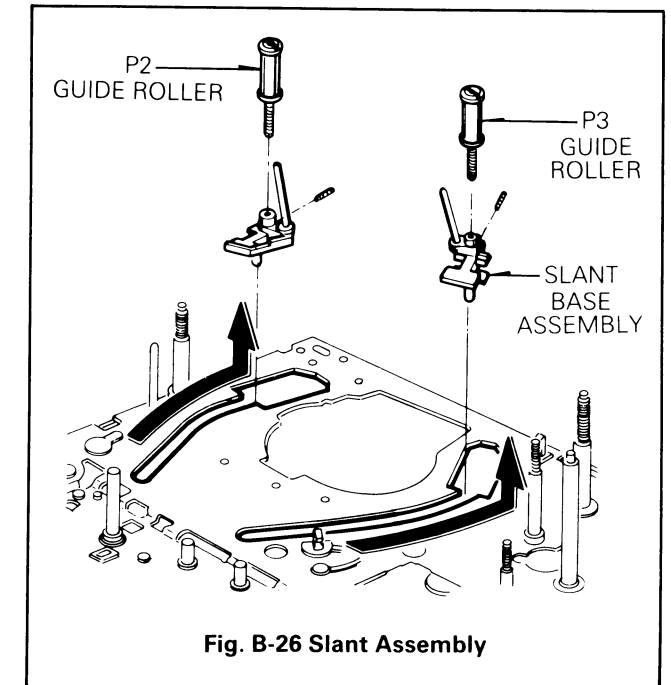


Fig. B-26 Slant Assembly

* NOTE

- 1) When disassembling and reassembling
 - ① Use a Hexagonal wrench to remove set screw.
 - ② Take notice that the P2 and P3 Slant Assembly should not be changed from their original place.

27. Loading Gear Assembly(L),(R) (Fig. B-27)

- 1) Remove the Cam Gear, Rack-T.
- 2) Remove the P2 and P3 Slant Assembly by turning the Loading Gear(L),(R) in the Loading direction
- 3) Lift up the Loading Gear Assembly(L),(R) from the Deck Mechanism Assembly.
- 4) Remove the Spring Load(L),(R).
- 5) Separate the Loading Gear(L), (R) from Lever Load(L),(R).

* NOTE

- 1) When reassembling
 - ① Make sure that the Loading Gear(L) and (R) should not be changed from their original place.
 - ② Align the groove of Loading Gear(L),(O) with the groove of Gear(R),(O).

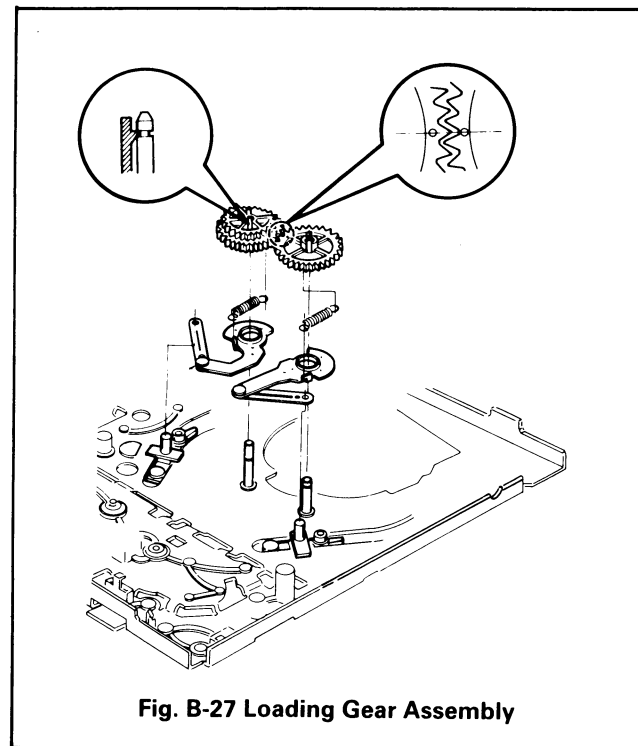


Fig. B-27 Loading Gear Assembly

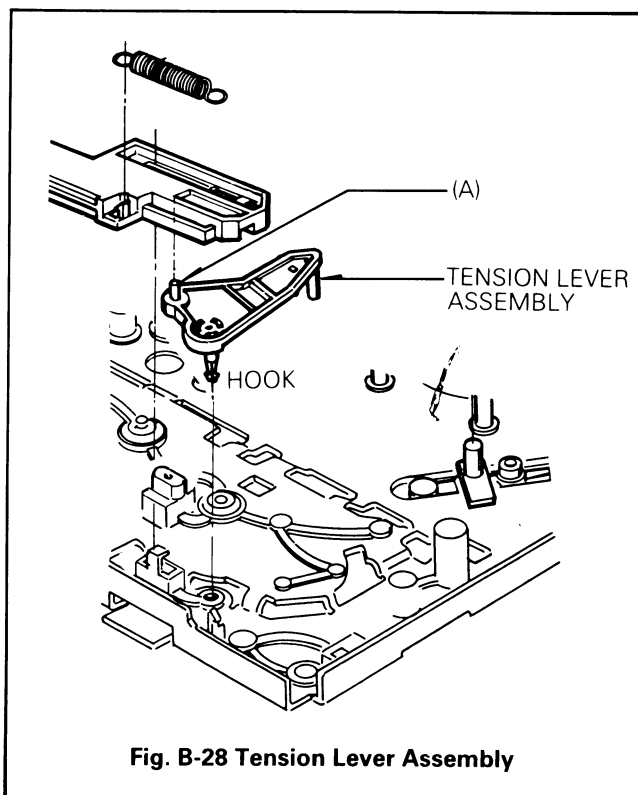


Fig. B-28 Tension Lever Assembly

28. Tension Lever Assembly(Fig. B-28)

- 1) Remove the Function Plate.
- 2) Remove the Tension Lever Assembly by pushing hooks inward.

* NOTE

- 1) When reassembling
 - ① Set the part(A) of Tension Lever Assembly in the groove of Lower part of Function Plate.
 - ② After reinstalling the Tension Lever Assembly, adjust the Tension Post and the Tension with a Tension Cassette.

29. Clutch Gear Assembly(Fig. B-29)

- 1) Remove the Pulley Gear.
- 2) Remove the Plate Function.
- 3) Remove the washer(A), and then remove the Clutch Gear Assembly.

* NOTE

- 1) When reassembling
 - ① Do not disassemble the Clutch Gear Assembly any further, because Torque adjustment is not adjustable.

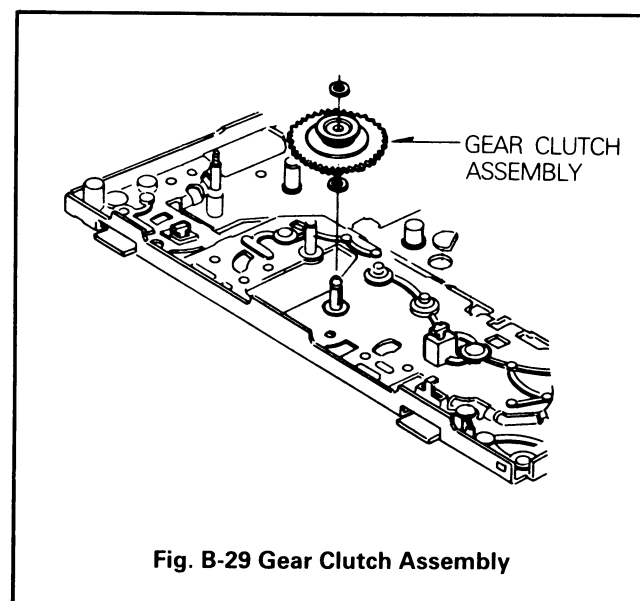


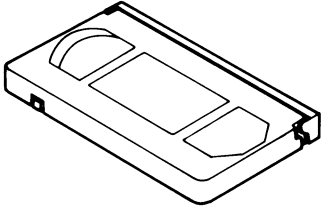
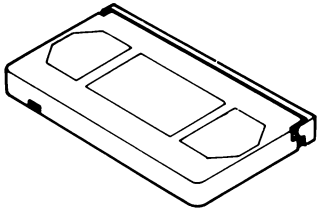
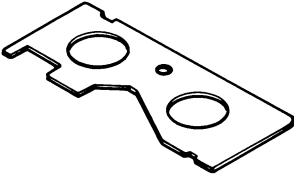
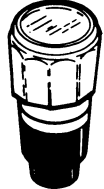

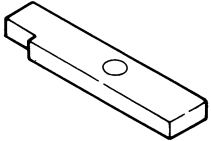

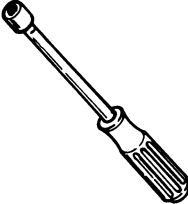
Fig. B-29 Gear Clutch Assembly

30. Take Up Reel Assembly(Fig. B-16)

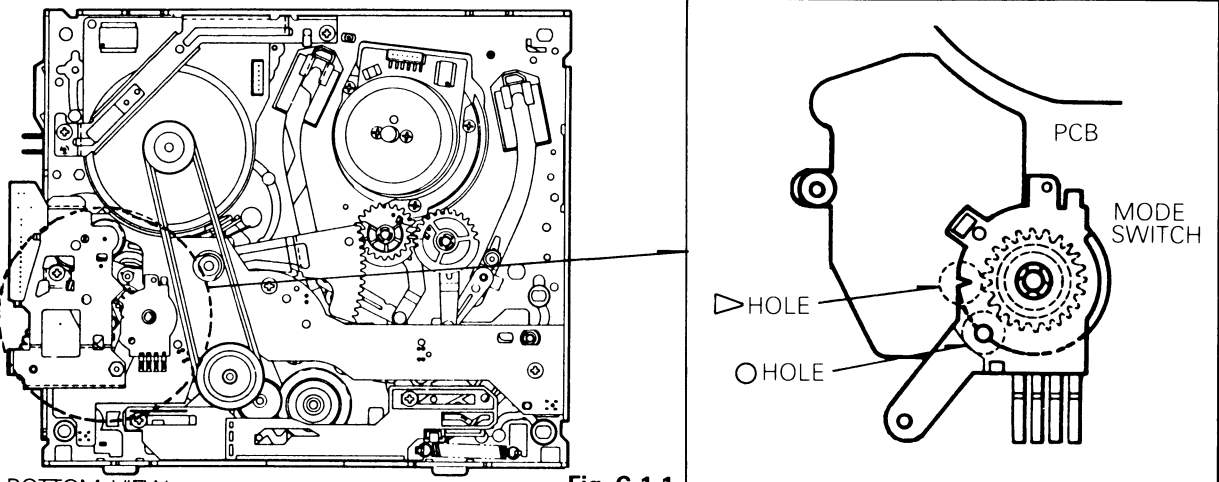
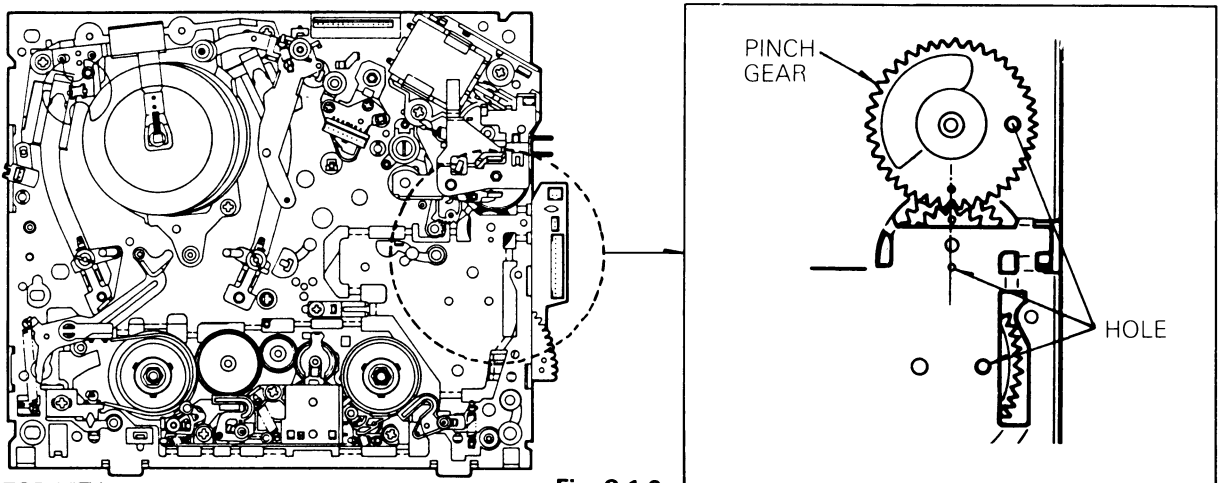
- 1) Remove the TMB(Fig. B-14)
- 2) Lift up the Take-up Reel Assembly from the Deck Mechanism Assembly.
- 3) Separate the Reel Cap and Spring from the Take-Up Reel by releasing Hooks(S).

MECHANISM ADJUSTMENTS

• Tools and Fixtures for Deck

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Back tension meter Parts No ; D00-D006  | 2. NTSC alignment tape Parts No NTSC ; DTN-0001 PAL ; DTN-0002  | 3. Master plane Parts No ; RJ10028  |
| 4. Torque gauge Parts No ; D00-D002  | 5. Torque gauge adaptor Parts No ; D09-R001  | 6. Reel table height fixture Parts No ; RJ10027  |
| 7. Post height adjusting driver Parts No ; DTL-0005  | 8. M3 Nut driver Parts No ; DTL-0006  | |

1. Mechanism State Switch(Mode Switch) Check

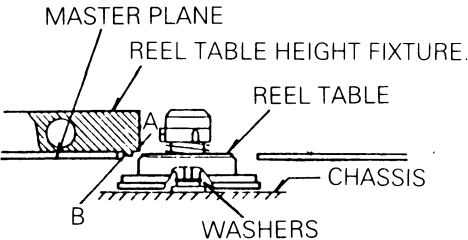
| Purpose: To detect accurately the mechanism state and prevent the mechanism from malfunction. | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|---------------------------------------------------|
| Test Equipment/Fixture | VCR State | Check Point |
| ● Blank tape | ● Eject Mode (with cassette ejected) | ● Mechanism state switch (Mode Switch and Cam) |
| Check Procedure 1) Turn the VCR on and eject the tape by pressing eject button. 2) Remove the Cabinet Top and Main P.C.Board, and then turn the Cam so as to align the hole of chassis with the hole of Cam and Pinch Gear, and Holes of Pinch Gear and P.C. Gear with each other. 3) Remove the Bottom Cover and then check that the grooves(V) and (O) of Mode S/W are at their original place. 4) If the above alignment is not obtained, adjust as follows. (1) Remove the Bracket Assembly Bottom and the Capstan Belt in the state of power off. (2) Remove the P.C.B Assembly, place the grooves (V) and (O) of mode switch at their original place, and then reassemble the P.C.B Assembly. (3) Turn the power on and perform the various operations to check that the loading and the unloading are correct. | | |
| Check Diagram  BOTTOM VIEW Fig. C-1-1 | | |
|  TOP VIEW Fig. C-1-2 | | |

2. Preparation for Adjustment(To set VCR to the loading state without inserting a cassette)

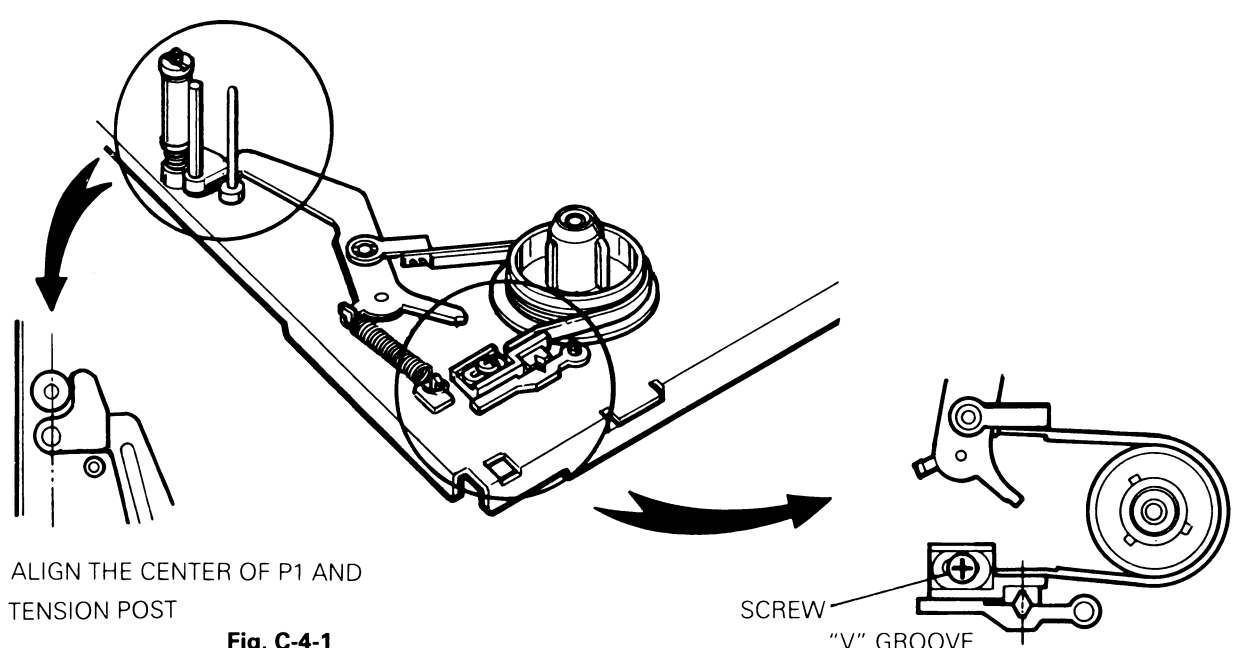
- 1) Unplug the power cord from the AC outlet.
- 2) Remove the Cabinet Top and Front Loading mechanism.
- 3) Plug the power cord into the AC outlet.
- 4) Turn the VCR on and push the tact switch in the PCB Assembly.
The VCR can accept input of each mode in this case. However the rewind and review operation cannot be performed for more than a few seconds because the take-up reel table is in the stop state and reel pulses cannot be detected.

(NOTE)
Always return the VCR to the Front Loading Mechanism Assembling State in the following order after the above operations have been performed.
1) Press the Eject button after turning the power on.
2) Wait for about 10 seconds until searching out the assembly position.
3) Assemble the Front Loading Mechanism and connect the Front Loading Mechanism Connector.
4) Refer to the "Front Loading Mechanism Disassembly" which is described previously.

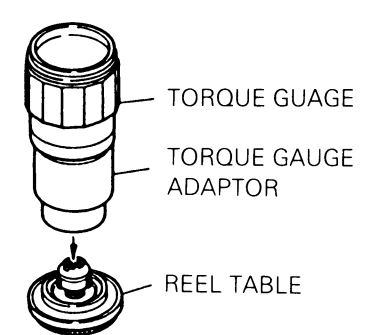
3. Reel Table Height Adjustment

| Purpose: To set the reels of the cassette to the specified height, thus determine the height of tape. | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| Test Equipment/Fixture | Preparation for adjustment | VCR State | Adjustment Points |
| ● Master Plane ● Reel Table Height Fixture | 1) Remove the Front Loading Mechanism 2) Mount the Master Plane and place the Reel Table Height Fixture on it. | | ● Washer under the Supply and Take-Up Reel Tables. |
| Adjustment procedure 1) Check that the Reel Table is between sections A and B of the Reel Table Height Fixture. 2) If the table is not between sections A and B of the Fixture, replace the washers(two types, 0.3mm and 0.5mm thick) in the Reel Table or adjust them. **CAUTION** When the Tension Arm and Tension Band are removed, adjust the tension post position and tension after reinstalling them. | | Adjustment Diagram  SUPPLY AND TAKE-UP REEL TABLE Fig. C-3 | |

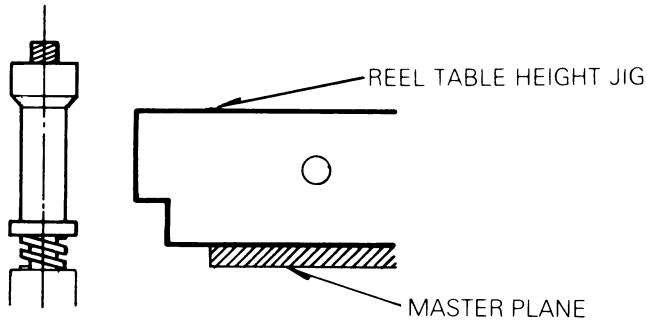
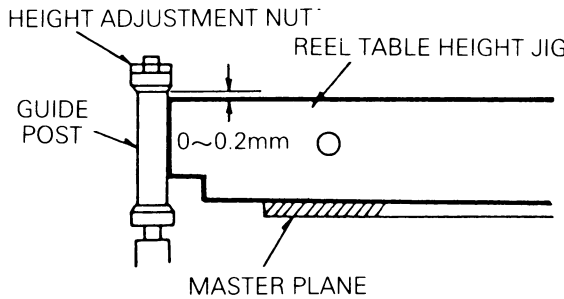
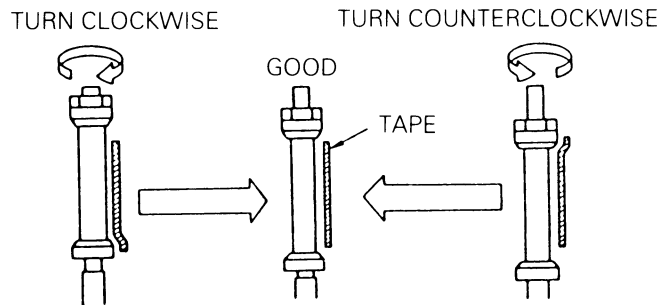
4. Tension Post Position and Tension Adjustment

| Purpose: To make the tension of tape constant so that the contact between the video heads and tape is stabilized. | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|------------------|
| Test Equipment/Fixture | VCR State | Adjustment Point |
| ● Tension Meter (Tension adjustment) | ● Play without cassette and with a Tension Meter | ● Holder Band(A) |
| Adjustment Procedures <Position Adjustment> 1) Perform loading without inserting a tape and loosen the screw that attaches the Band Holder(B) to the D-Deck Mechanism Assembly. 2) Insert the (—)type driver between the Band Holder(B) and the "V" groove of the chassis. 3) Move the Band Holder(B) right and left and align the center of tension post with the center of P1. 4) Tighten the screw that attaches the Band Holder(B) to Deck Mechanism Assembly. (2) below the standard:loosen the screw, move the Band Holder(B) left a little and then tighten the screw and make sure that this adjustment is correct. **CAUTION** The range of movement of Band Holder(B) should be within $\pm 1.5\text{mm}$ while being adjusted. If the range is over, you should recheck the Reel Brake, Tension Arm and Spring. <Tension Adjustment> 1) Play the Tension Meter and read the Tension Meter: $35\text{g}\cdot\text{cm} \pm 2.5\text{g}\cdot\text{cm}$ (reference value). 2) If the result is abnormal. (1) over the standard:loosen the screw, move the Band Holder(B) right a little and then tighten the screw and make sure that this adjustment is correct. | | |
| Adjustment Diagram  Fig. C-4-1 Fig. C-4-2 | | |

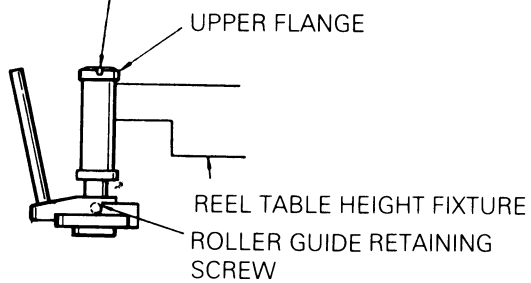
5. Checking Torque

| Purpose: It is necessary to check the tension, torque and compression force at the tape take-up section and moving section to make the tape run smoothly and satisfy the basic performance of the VCR. Check these if the tape does not run smoothly or the tape speed is abnormal. | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|------------------------------------------------------------------------------------------------------------|--------------------|
| Test Equipment/Fixture | | VCR state | |
| ● Torque Gauge ● Torque Gauge Adaptor | | ● Set the VCR to each operation mode without inserting a cassette. (See '2 Preparation for Adjustment') | |
| Item | VCR Operation mode | Measurement Reel | Measurement Values |
| Main brake torque. | Eject | Supply and take-up reels | 600g·cm or more |
| Slack removal torque | Unloading(power off) | Supply reel | 110~200g·cm |
| Fast forward torque | Fast forward | Take-up reel | 400g·cm or more |
| Rewind torque | Rewind | Supply reel | 400g·cm or more |
| Play take-up torque | Play | Take-Up reel | 90~130g·cm |
| Checking Method The values are measured by using a torque gauge and torque gauge adaptor with the torque gauge fixed. Note: This value is measured when the VCR is shifted in the unloading direction from the fast forward or rewind mode and quick braking is applied to both Reel Tables.  Fig. C-5 | | | |

6. Guide Post Height Adjustment

| Purpose: To control tape height | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|--------------------------------------------|
| Test Equipment/Fixture | VCR State | Adjustment Point |
| ● Master Plane ● Blank Tape ● Reel Table Height Jig ● Post Height Adjusting Driver ● M3 Nut Driver | ● Mount the Master Plane and place the Reel Table Height Jig on it. | ● Nuts on Impedance Roller ● Guide Post |
| <div>1) Set the clearance between the bottom of the P1 Roller Flange and under cut of Reel Table Height Fixture to 0~0.1mm(Fig. C-6-1).</div> <div>2) Set the clearance between the bottom of the Guide Post upper flange and top of the Reel Table Height Jig to 0~0.2mm(Fig. C-6-2).</div> <div>3) Load and run the Tape and check that the tape does not ride over the upper and lower flanges of the guide post.</div> <div>4) If the tape rides over either flange, adjust the height of P1 Roller and Guide Post as follows(Fig. C-6-3).<ul style="list-style-type: none">● If the tape rides over the upper flange, turn the nut counterclockwise.● If the tape rides over the lower flange, turn the nut clockwise.</div> | | |
| <div>Adjustment Diagrams</div> <div></div> <div>Fig. C-6-1</div> <div></div> <div>Fig. C-6-2</div> <div></div> <div>Fig. C-6-3</div> | | |

7. Guide Roller Height Adjustment

| Purpose: To regulate the height of tape so that the bottom of tape runs along the tape guide line on the lower drum. | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Equipment/Fixture | VCR State | Adjustment Point |
| ● Master Plane ● Reel Table Height Fixture ● Hexagonal Wrench ● Post Height Adjusting Driver | ● Mount the Master Plane and place the Reel Table Height Fixture on it. | ● Roller Guide Height Adjustment Screws on the Supply and Take-Up Guide Rollers. |
| Adjustment Procedure <div>1) Align the bottom of the Guide Roller's upper flange and the top of the Reel Table Height Fixture.</div> <div>2) Perform the precise adjustment next.</div> <div>3) When the Guide Roller is damaged, release the Guide Roller retaining screw and then replace the Guide Roller.</div> | | Adjustment Diagram <div></div> <div>Fig. C-7-1</div> |

B. Precise Adjustment

| Test Equipment/Fixture | Test Equipment Connection Points | VCR State | Adjustment Point |
|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|--------------------------|------------------------------------------|
| ● Oscilloscope ● Post Height Adjusting Driver ● Alignment Tape ● Hexagonal wrench | ● CH-1: PB RF Envelope ● CH-2: SW 3-Hz ● Head Switching Output Point ● RF Envelope Output Point | ● Play an alignment tape | ● Guide Roller Height Adjustment Screws. |

Adjustment Procedure

- 1) Play an alignment tape after connecting the probe of the oscilloscope to RF Envelope Output Test Point and Head Switching Output Test Point.
- 2) Tracking control(in PB mode):Center position(When this adjustment is performed after the drum assembly has been replaced, set the tracking control so that the RF output is maximum.)
- 3) Height adjustment screw:Flatten the RF waveform.
- 4) Turn(Move) the tracking control(playback) clockwise and counterclockwise.(to the right and left)
- 5) Check that the drops of RF output are uniform at the start and end.

Waveform Diagrams

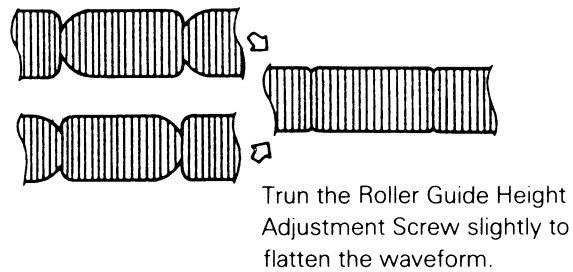


Fig. C-7-2

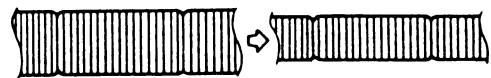
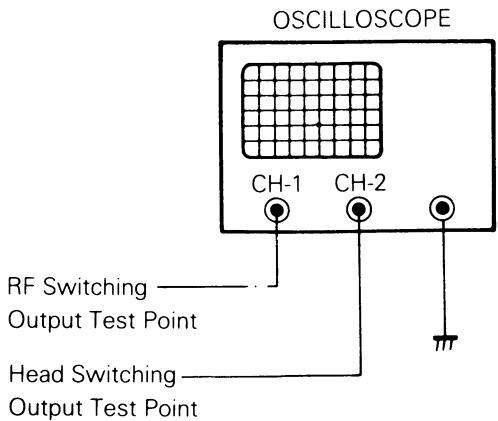


Fig. C-7-3

Connection Diagram



8. Audio/Control(A/C) Head Adjustment

Purpose: To keep the contact between the tape and head so that the specified track is recorded and played back.

A. Coarse Adjustment

| Test Equipment/Fixture | VCR State | Adjustment Points |
|------------------------------------------------------------------|------------------------------------------------------------------------|------------------------------------------------------------------------------|
| ● Master Plane ● Reel Table Height Fixture ● M3 Nut Driver | ● Mount the Mater Plane and place the Reel Table Height Fixture on it. | ● Special screw ● Cone Point Screw for tilt ● Azimuth Adjustment Screw |
| ● Blank tape | ● Run the blank tape | ● A/C Head Adjuster |

Adjustment procedure/ Adjustment Diagram

- 1) Tighten the spring section of the special screw so that it protrudes 6.4mm(approx.) over the top of Head Base(1).

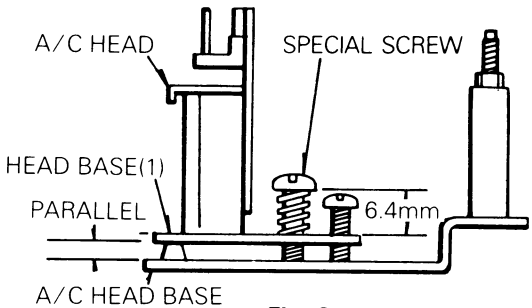


Fig. C-8-1

- 2) Turn the Azimuth Adjustment Screw and Cone Point Screw so that the Head Base(1) and A/C Head Base are parallel.

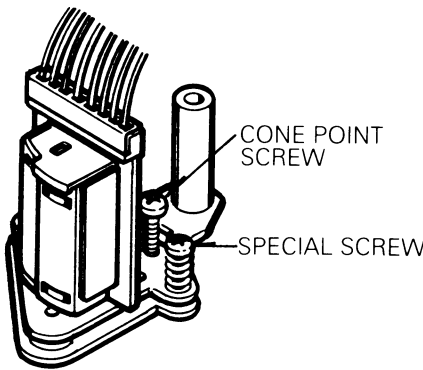


Fig. C-8-2

- 3) Turn the A/C Head Adjuster until the clearance between the Master Plane and Head Base(1) is approx 1.2mm.

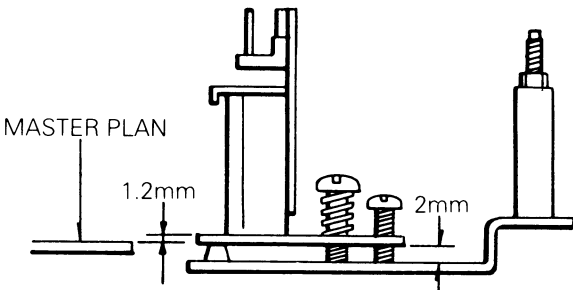


Fig. C-8-3

- 4) Remove the adjustment fixture, load a blank tape and set the VCR to the play mode.
- 5) Check that there is no conspicuous curling and riding over around the A/C head. If there is conspicuous curling or riding over, readjust the Cone Point Screw, Azimuth Adjustment Screw and A/C Head Adjuster. When the bottom edge of tape is 0.20~0.25mm from the bottom edge of the control head's core, the height of A/C head is ideal.

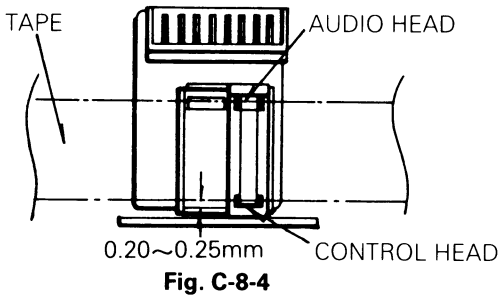
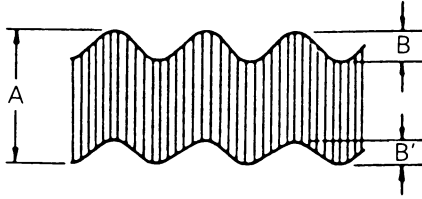


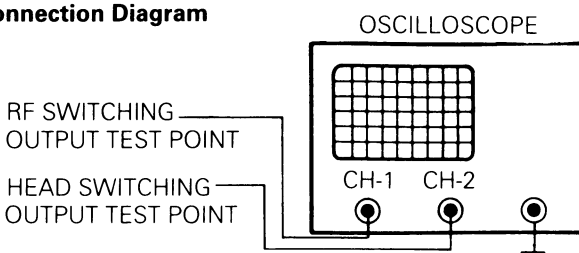
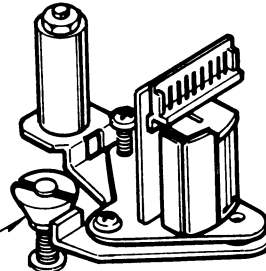
Fig. C-8-4

- 6) Perform the precise adjustment continuously.

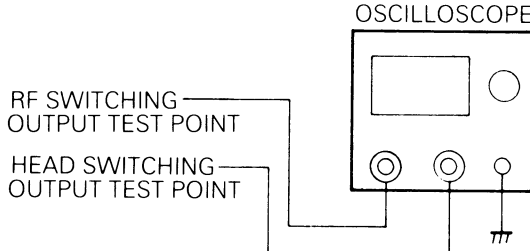
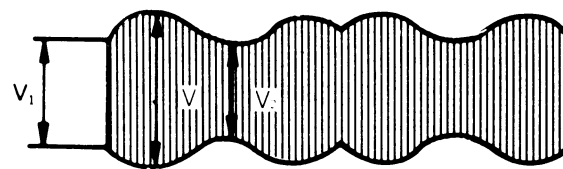
B. Precise Adjustment

| Test Equipment/Fixture | Test Equipment Connection Point | VCR State | Adjustment Points |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| ● Oscilloscope ● Alignment tapes ● M3 Nut Driver | ● Audio output jack | ● Play an alignment tape 1KHz, 7KHz sections | ● Azimuth Adjustment Screw ● A/C Head adjuster ● Cone point screw |
| Adjustment Procedure 1) Connect the probe of oscilloscope to audio output jack. 2) Adjust the Azimuth Adjustment Screw, A/C Head adjuster and cone point screw slightly and alternately so that a Audio 1KHz output is maximum and flat.(minimum fluctuation) 3) Adjust the Azimuth Adjustment Screw slightly and alternately so that the Audio 7KHz output is maximum. | | Waveform Diagram  A:Maximum B:Minimum Fig. C-8-5 | |

9. X-Value Adjustment

| Purpose: To obtain compatibility with other VCRs. | | | |
|------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| Test Equipment/Jigs | Test Equipment Connection Points | VCR State | Adjustment Points |
| ● Oscilloscope ● Alignment tapes ● Post Height Adjusting Driver | ● CH-1:PB RF Envelope ● CH-2:SW 30Hz ● Head Switching Output Test Point ● RF Envelope Output Test Point | ● Play an alignment tape | ● X Adjust |
| Connection Diagram  | | Adjustment Procedure  Fig. C-9 1) Insert a cassette tape, and then "AUTO TRACKING" will be displayed on the Digitron, then push the Tracking ⊕ or ⊖ Keys one time as soon as possible to make the VCR release the Auto Tracking. 2) Turn the Adjust X to the maximum RF Envelope level when the VCR is free from the Auto tracking. 3) If RF envelope output is maximized from the center click position in right direction(clockwise), set the tracking control to the center and turn the X Adjust counterclockwise. 4) If in left direction(counterclockwise), turn it clockwise by same method. 5) In case of the 30 μm, head will trace over a 60 μm width track, readjust it so that RF Envelope output begins falling at the same angle when tracking control is turned either left or right. | |

10. Adjustment after Replacing Drum Assembly(Video Heads)

| | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Purpose: To suppress drift in the height relative to the Guide Roller and drift of the X Value after replacing the drum. | | | |
| Test Equipment/Fixture | Test Equipment Connection Points | VCR State | Adjustment Points |
| <ul style="list-style-type: none">● Oscilloscope● Post Height Adjusting Driver● Alignment tape● Blank tape● M3 Nut Driver | <p>Checking the flatness</p> <ul style="list-style-type: none">● CH-1:PB RF Envelope● CH-2:SW 30Hz● Head Switching Output Point● RF Envelope Output Point | <ul style="list-style-type: none">● Run the blank tape● Play an alignment tape | <ul style="list-style-type: none">● Guide Rollers Precise Adjustment● Switching point● Tracking point● X-Value |
| Connection Diagram  | | Waveform Diagram  $V_1/V \text{ MAX} \geq 0.7$ $V_2/V \text{ MAX} \geq 0.8$ RF ENVELOPE OUTPUT | |
| Checking / Adjustment Procedure <ol style="list-style-type: none">1) Run the blank tape, check and adjust whether the Roller Guide is curling or creasing tape around the Roller Guide.2) Check the RF envelope output flatness and adjust the Roller Guide Height while playing an alignment tape.3) Adjust the head switching point.4) Check that RF envelope output is maximum when the tracking is at the center click position.5) Adjust the Tracking Preset and X-Value Adjust with X Adjust. | | | |

11. Maintenance/Inspection Procedure

(1) Required Maintenance

The recording density of a VCR is much higher than that of an audio tape recorder. VCR components must be very precise, at tolerances of 1/1000mm, to ensure compatibility with other VCRs. If any of these components are worn or dirty, the symptoms will be the same as if the part is defective. To ensure good picture, periodic inspection and maintenance, including replacement of worn out parts and lubrication, are necessary.

(2) Scheduled Maintenance

Schedules for maintenance and inspection are not fixed because they vary greatly according to the way in which the customer uses the VCR, and the environment in which the VCR is used.

But, in general home use, a good picture will be maintained if the inspection and maintenance is made every 1,000hours. The table below shows the relation between time used and inspection period.

Table 1

| When inspection is necessary Average hours used per day | About 1 year | About 18 months | About 3 years |
|------------------------------------------------------------|--------------|-----------------|---------------|
| One hour | | | |
| Two hours | | | |
| Three hours | | | |

(3) Check before starting repairs

The following faults can be remedied by cleaning and oiling. Check the needed lubrication and the conditions of cleanliness in the unit.

Check with the customer to find out how often the unit is used, and then determine that the unit is ready for inspection and maintenance. Check the following parts.

Table 2

| Phenomenon | Inspection |
|--------------------------------------------------------|------------------------------------------------|
| Poor S/N, no color | Dirt on video head or worn video head |
| Tape does not run or tape is slack | Dirt on pressure roller, belt or flywheel belt |
| Vertical jitter, horizontal jitter | Dirt on video head or in tape transport system |
| Color beats | Dirt on full-erase head |
| Low volume or sound distorted | Dirt on audio/control head |
| Fast forward or rewind is not done or rotation is slow | Dirt on belt |

(4) Supplies Required for Inspection and Maintenance

- (1) Greases Kanto G-31(or equivalent)
- (2) Alcohol(or freon)
- (3) Cleaning Patches

5) Maintenance Procedure

5-1) Cleaning

(1) Cleaning video head

First use a cleaning tape. If dirt on head is too stubborn to remove by tape, use the cleaning patch. Coat the cleaning patch with alcohol or freon to the point indicated. Touch the cleaning patch to the head tip and gently turn the head(rotating cylinder) right and left.

(Do not move the cleaning patch vertically and make sure that only the buckskin on the cleaning patch comes into contact with the head. Otherwise, the head may be damaged.)

Thoroughly dry the head. Then test tape-running. If alcohol or freon remains on the video head, the tape may be damaged when it comes into contact with the head surface.

- (2) Cleaning the tape transport system and drive system, etc, by wiping with a cleaning patch wetted with alcohol or freon.

Note:

- ① It is the tape transport system which comes into contact with the running tape. The drive system consists of those parts which move the tape.
- ② Make sure that during cleaning you do not touch the tape transport system with the tip of a screw driver and no force is applied to the system that would cause deforming.

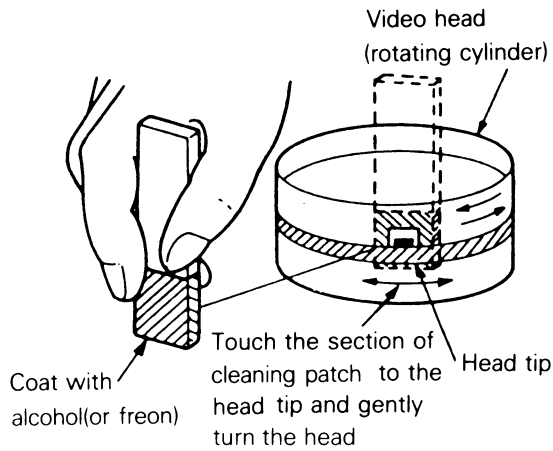


Fig. C-11-1

5-2) Greasing

(1) Greasing guidelines

Apply grease, with a cleaning patch. Do not use excess grease. It may come into contact with the tape transport of drive system. Wipe any excess and clean with cleaning patch wetted in alcohol or freon.

(2) Periodic greasing

Grease specified locations every 5,000hours.

GUIDE ROLLER(SUPPLY)

VIDEO HEAD(UPPER-DRUM)

FULL ERASE HEAD

IMP ROLLER

TENSION POST

GUIDE ROLLER(TAKE-UP)

AUDIO CONTROL HEAD

PINCH ROLLER

Fig. C-11-2 Tape Transport System

| Phenomenon | Inspection | Replace ment | |
|-------------------------------------|-----------------------------------------------------|-----------------|-----|
| Color beats | Dirt on full-erase head | ○ | → ① |
| Poor S/N no color | Dirt on video head | ○ | → ② |
| Vertical jitter | Dirt on video head Dirt in tape transport system | ○ | → ③ |
| Low volume, Sound distorted | Dirt on audio/control head | ○ | → ④ |
| Tape does not run. Tape is slack | Dirt on pinch roller | ○ | → ⑤ |

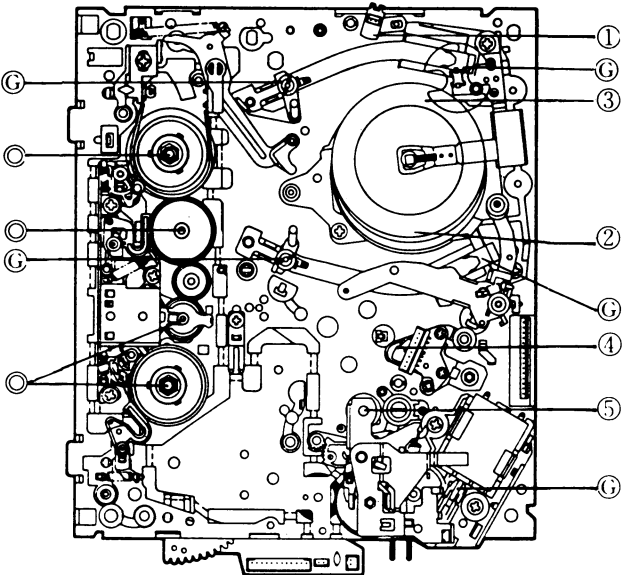


Fig. A-12 Top View of Mechanism

| Phenomenon | Inspection Location | Replace ment | |
|----------------------------------------------------------|---------------------|-----------------|-----|
| Do not fast forward or rewind, or rotation is slow | Dirt on reel belt | ○ | → ⑥ |
| Tape does not run | | | |
| Slack tape | | | |

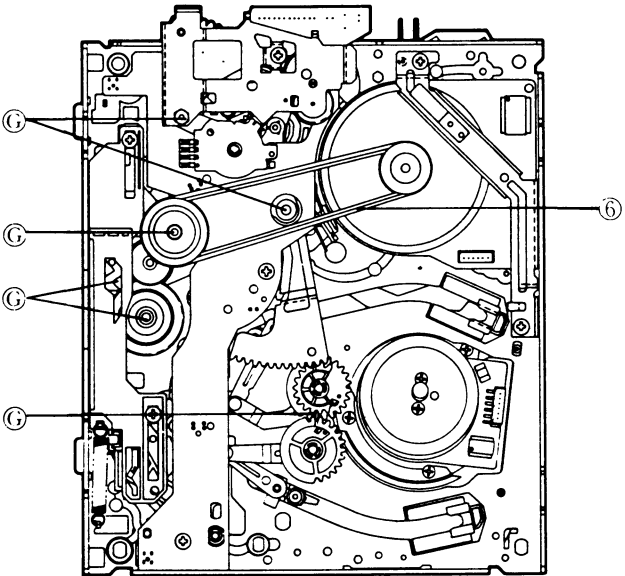


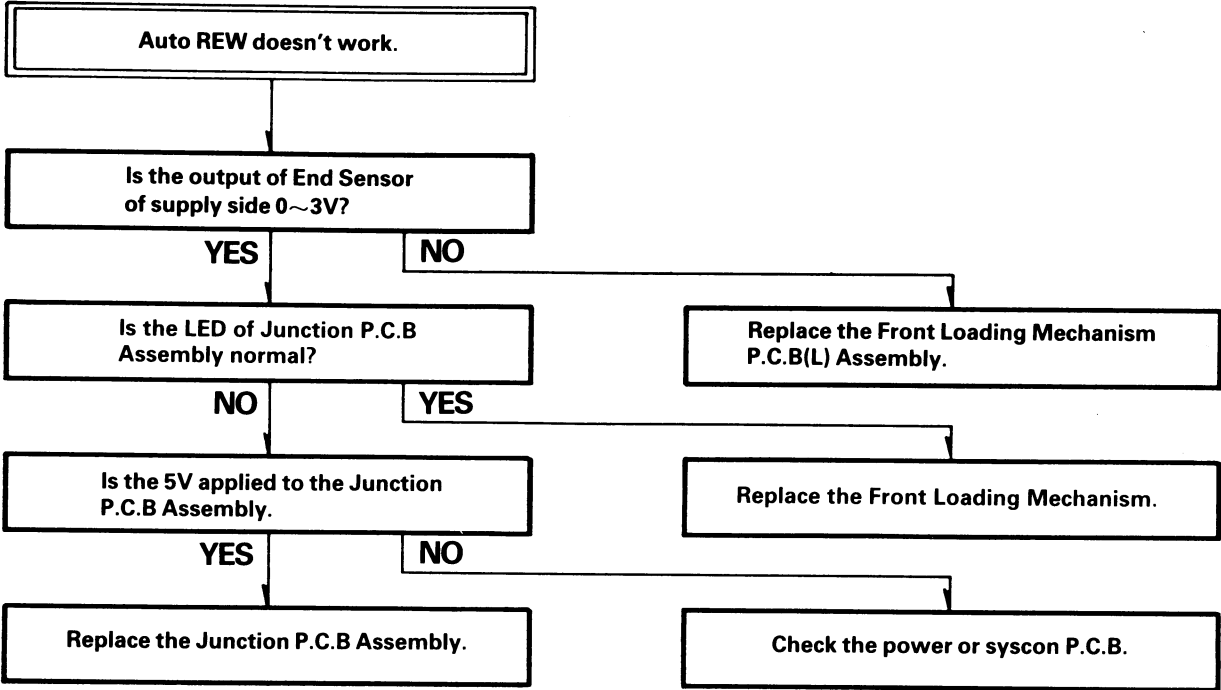
Fig. A-13 Bottom View of Mechanism

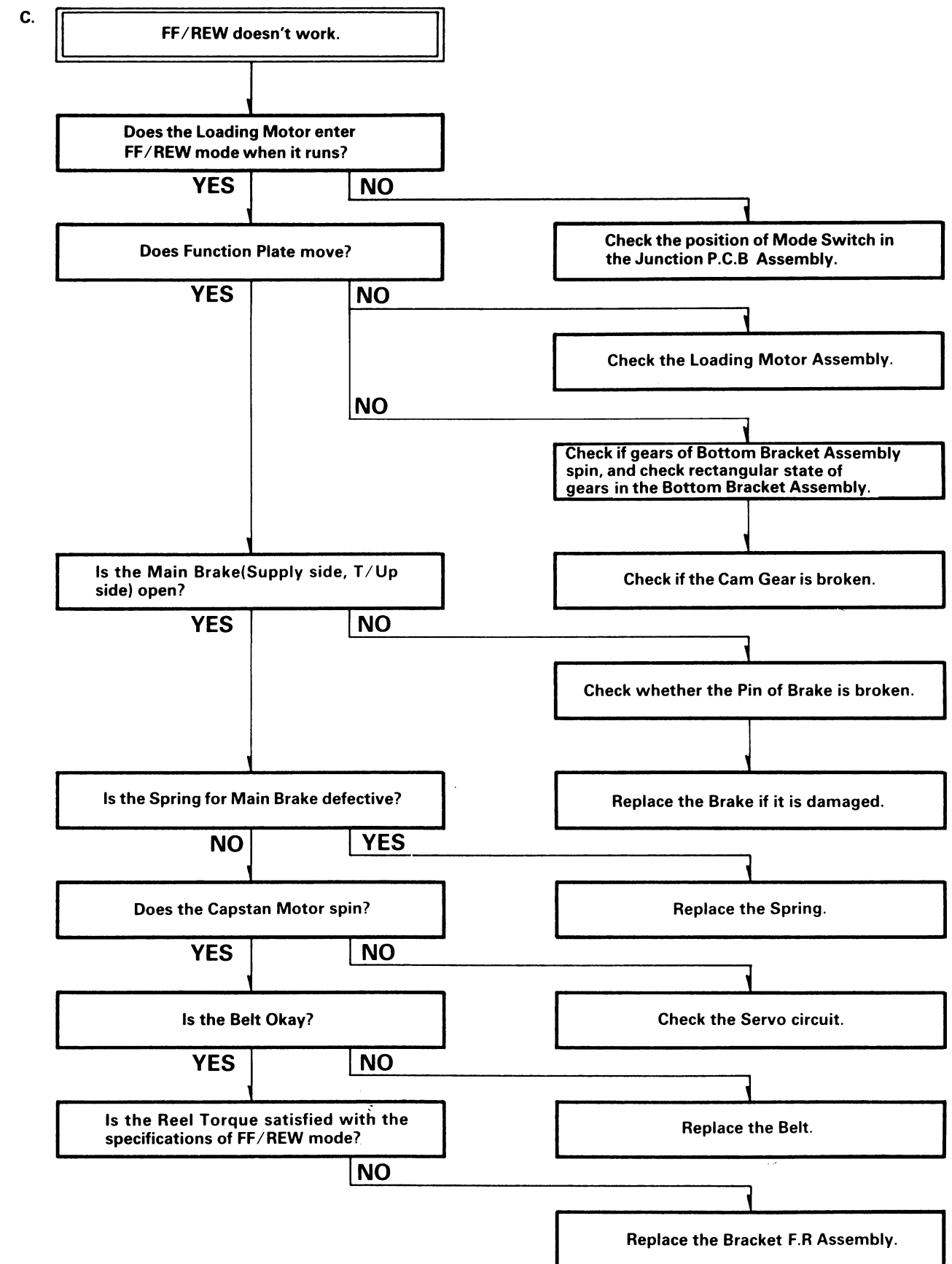
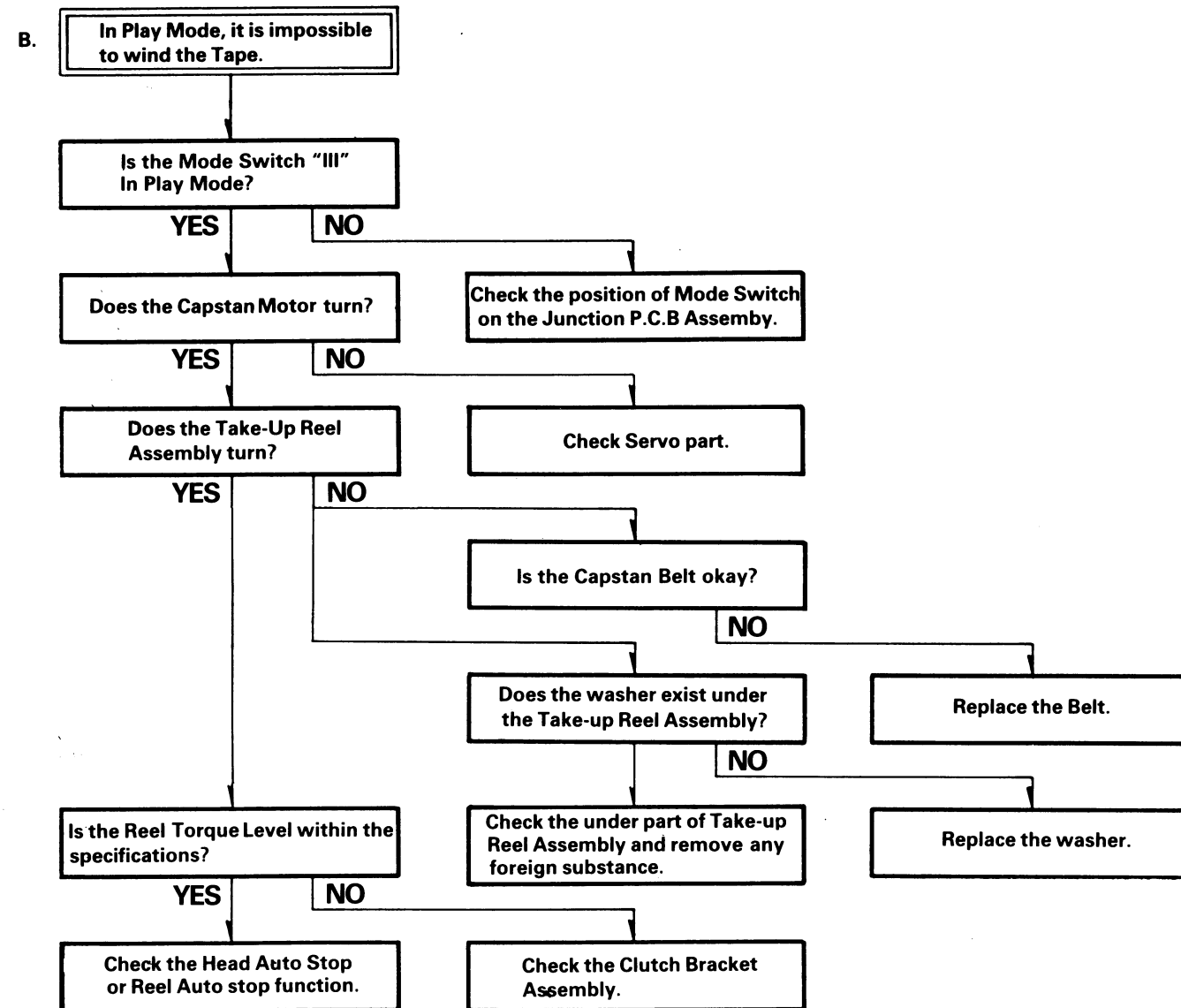
Ⓒ:Grease

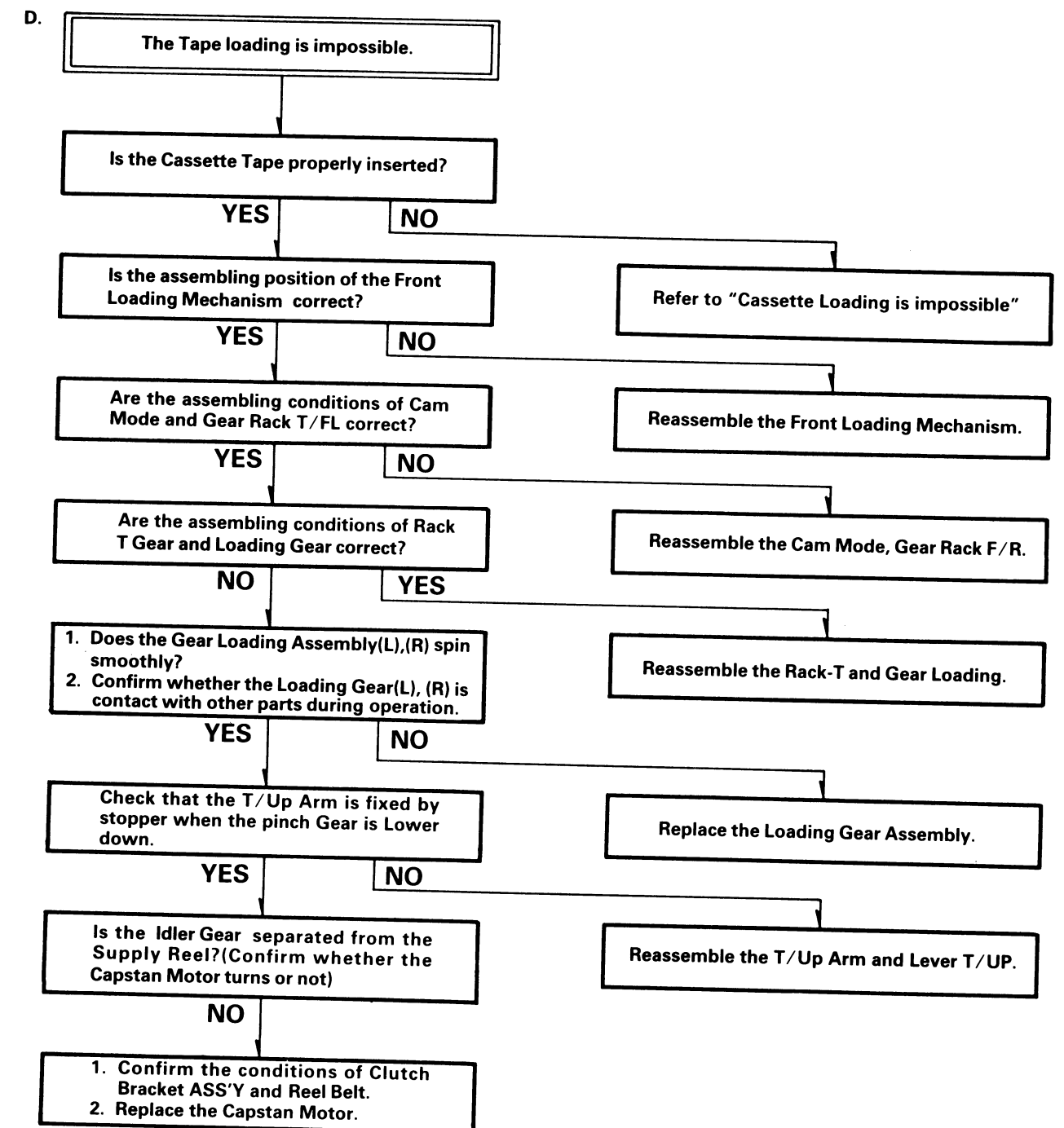
Note: If locations marked with ○ do not operate normally after cleaning, check for wear and replace.
See the EXPLODED VIEWS at the end of this manual as well as the above illustrations for the sections to be lubricated and greased.

MECHANISM TROUBLESHOOTING GUIDE

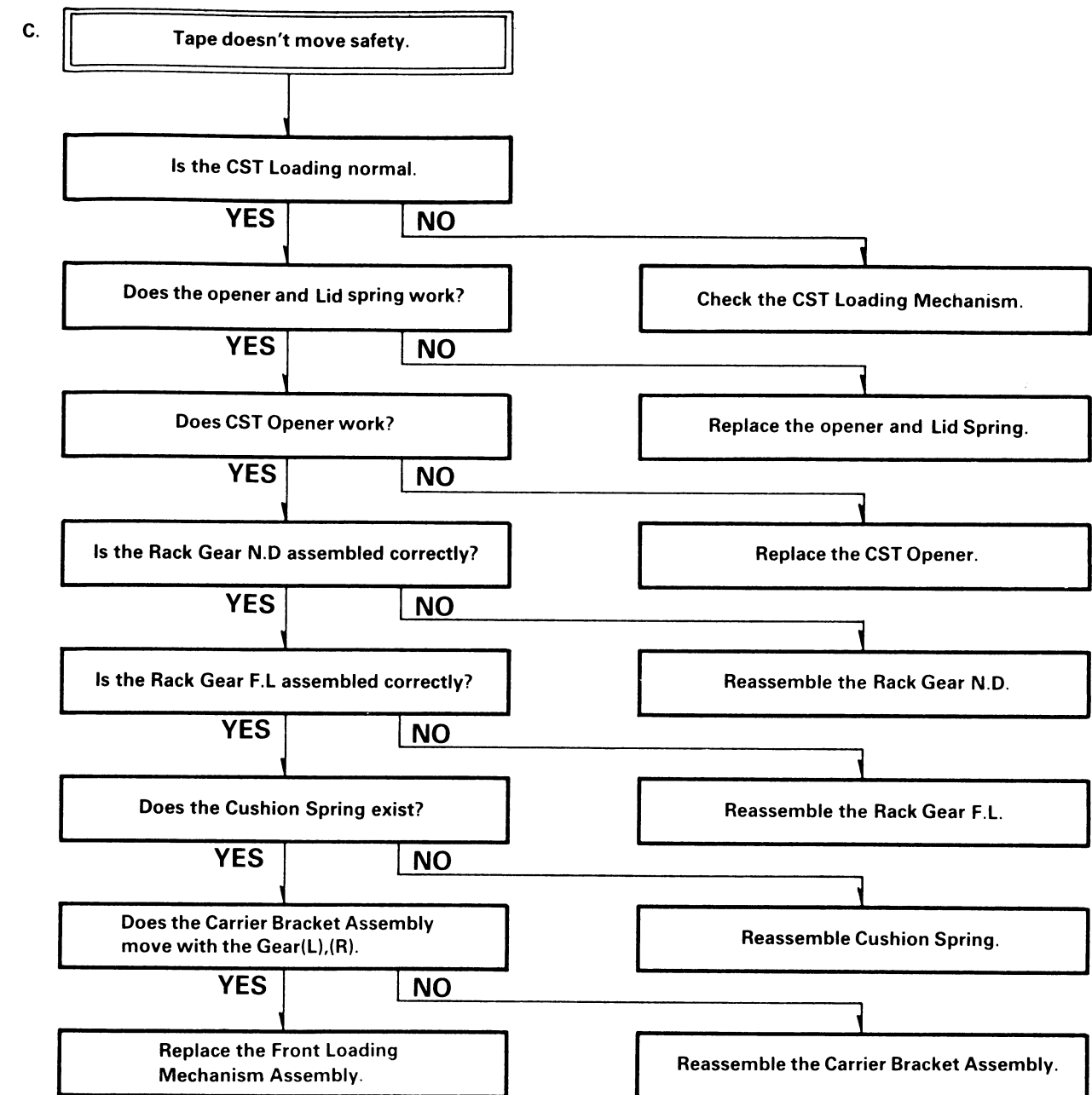
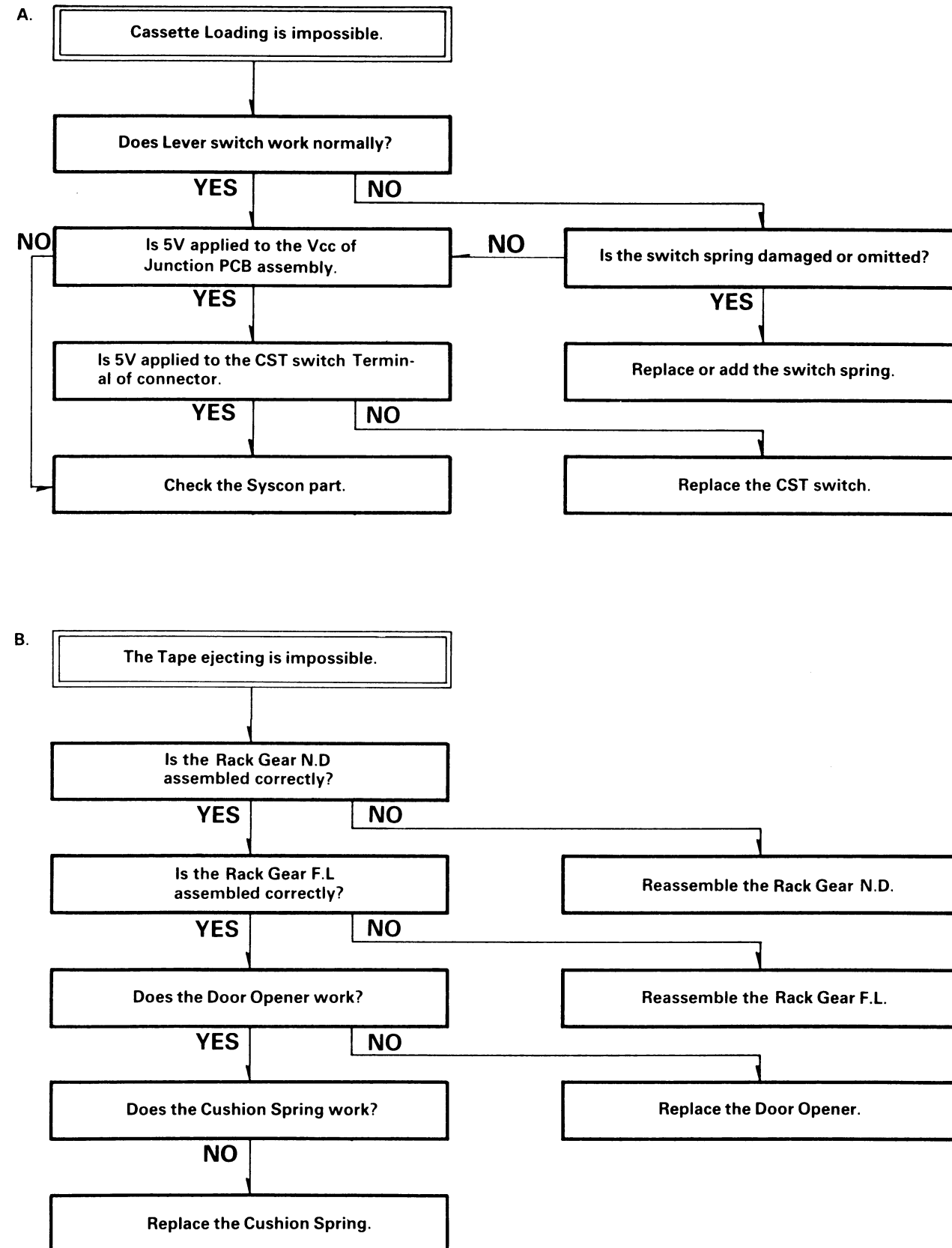
1. Deck Mechanism










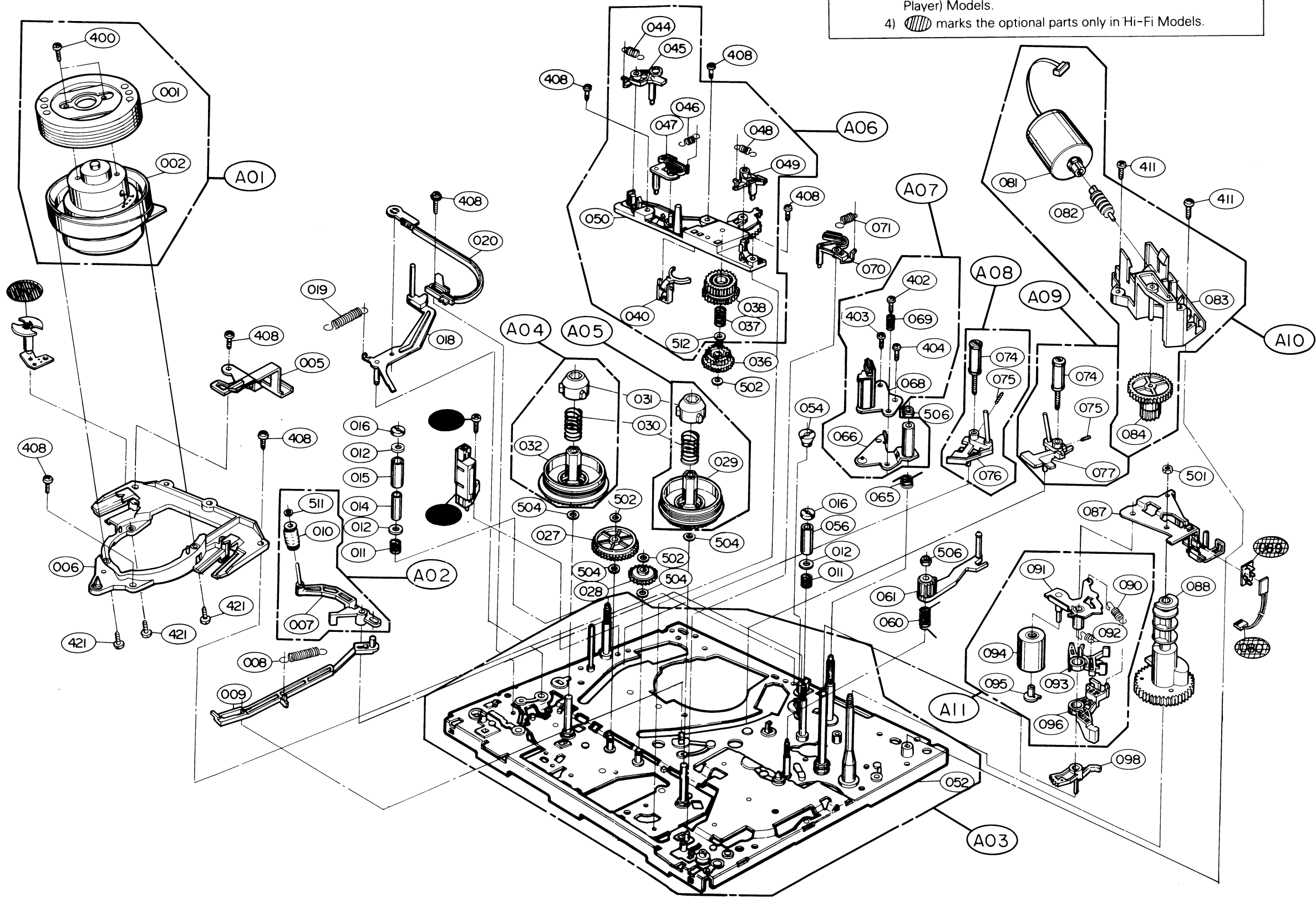
2. Front Loading Mechanism



EXPLODED VIEW

1. Moving Mechanism Section(I)

NOTE) 1) Refer to "SECTION 5 REPLACEMENT PARTS LIST" in order to look for the part number of each part.
2)  marks the optional parts only in VCR(Video Cassette Recorders) Models.
3)  marks the optional parts only in VCP(Video Cassette Player) Models.
4)  marks the optional parts only in Hi-Fi Models.



A

B

C

D

E

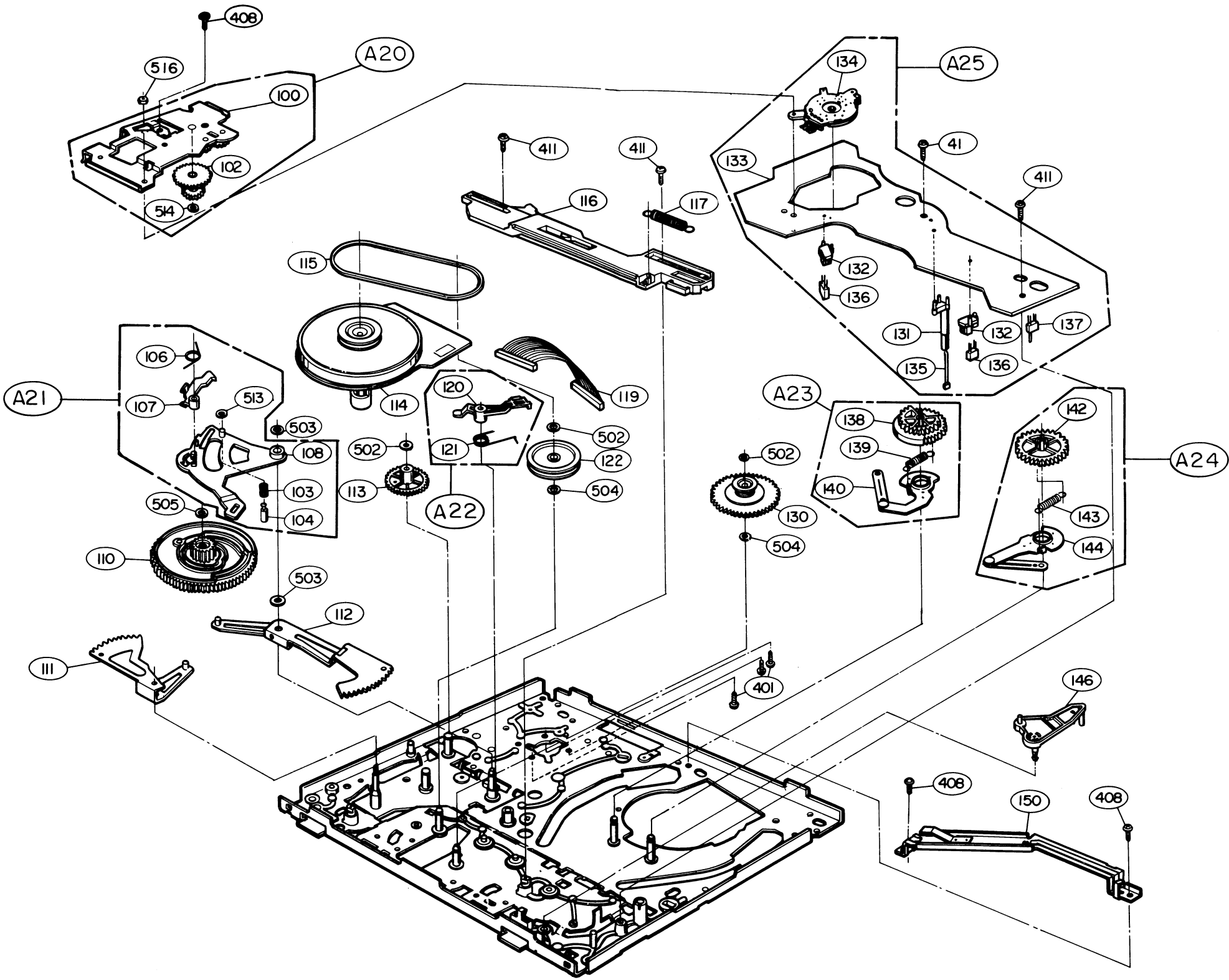
F

G

H

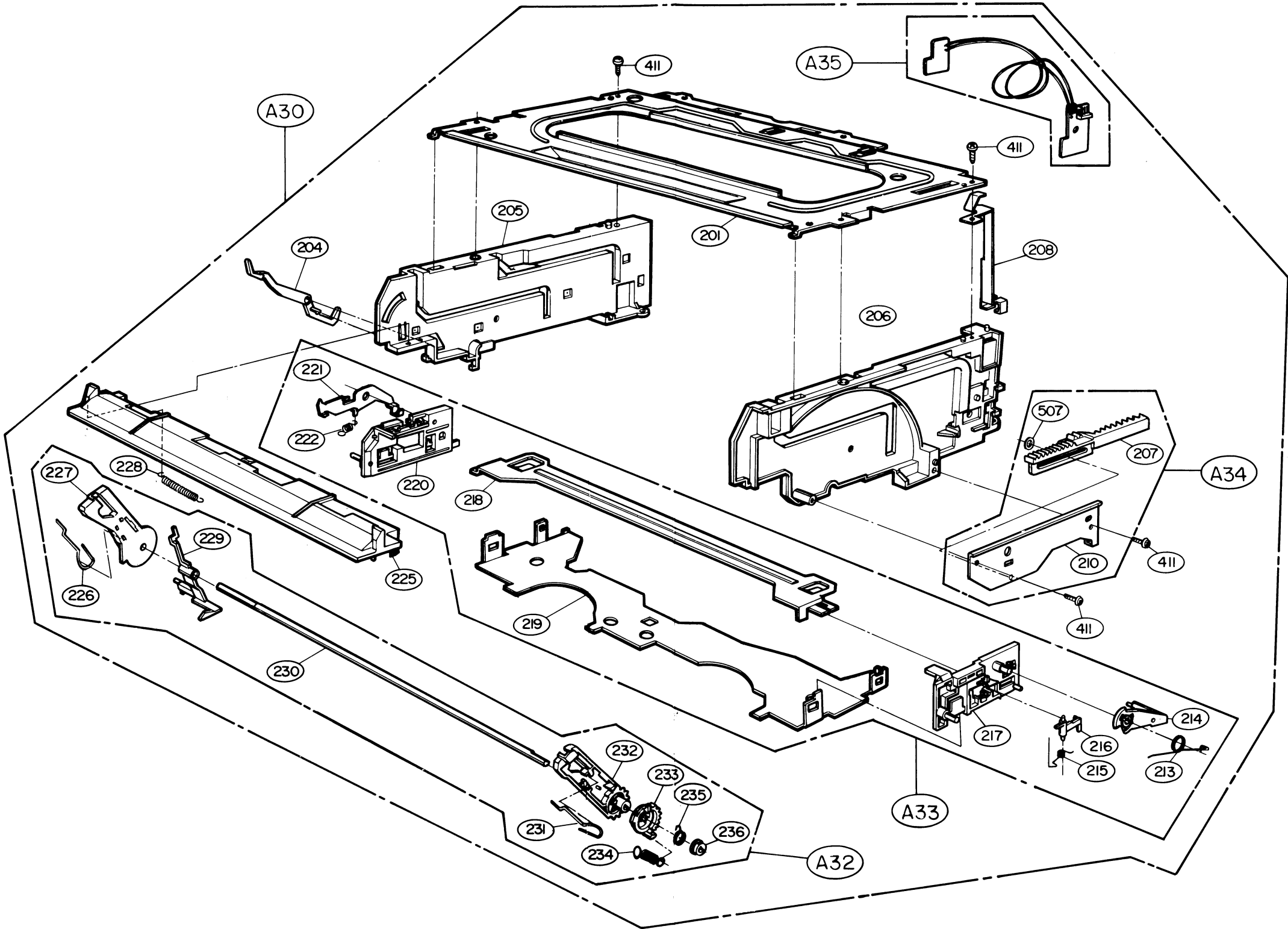
2. Moving Mechanism Section(Ⅱ)

NOTE) 1) Refer to "SECTION 5 REPLACEMENT PARTS LIST"
in order to look for the part number of each part.



3. Front Loading Mechanism Section

NOTE) 1) Refer to "SECTION 5 REPLACEMENT PARTS LIST"
in order to look for the part number of each part.



A B C D E F G H

SECTION 5
REPLACEMENT PARTS LIST
CONTENT

| | |
|-------------------------------------------------|------------|
| REPLACEMENT PARTS LIST | 5-3 |
| ● Mechanical Section | 5-3 |
| ● Cabinet & Main frame Section | 5-7 |
| ● Packing Accessory Section | 5-8 |
| ● Remote Control Section | 5-8 |
| ● Electrical Section | 5-9 |

REPLACEMENT PARTS LIST

• Mechanical Section

RUN-DATE : 92.06.01
NSP: Not Service Part

| S | AL | LOCA. NO | PART NO(GS) | DESCRIPTION | SPECIFICATION | REMARKS |
|------------------------|----|----------|-------------|---------------|----------------------------|------------|
| ASSEMBLY PARTS SECTION | | | | | | |
| | | A00 | 412-103A | DECK | ASSY D17 | NSP NSP |
| | | A01 | 413-222D | DRUM | ASSY (D17-PAL:D4HD/S) | |
| | | A02 | 386-296A | ARM | ASSY CL | |
| | OR | A03 | 311-005A | CHASSIS ASSY* | | |
| | | A03 | 311-005B | CHASSIS ASSY* | | |
| | | A04 | 456-048A | REEL | D17(WONW00) | |
| | | A05 | 456-045A | REEL | ASSY S17 | |
| | | A06 | 321-397A | BRACKET | ASSY T17 | |
| | | A07 | 225-228A | BASE | ASSY F/R | |
| | OR | A08 | 225-248A | BASE | ASSY A/C | |
| | | A08 | 225-248B | BASE | ASSY.P2 | |
| | OR | A09 | 225-249A | BASE | ASSY P2 (W-W) | |
| | | A09 | 225-249B | BASE | ASSY.P3 | |
| | | A10 | 414-104A | MOTOR | ASSY P3 (W-W) | |
| | | A11 | 333-209C | LEVER | ASSY LOAD | |
| | | A20 | 321-401A | BRACKET | LEVER ASSY PINCH | |
| | | A21 | 333-208A | LEVER | ASSY BOTTOM | |
| | | A22 | 338-078A | BRAKE | ASSY RAT | |
| | | A23 | 386-218A | ARM | ASSY CAP | |
| | | A24 | 386-219A | ARM | ASSY LOAD(R) | |
| | | A25 | 511-997A | PWB ASSY | ASSY LOAD(L) | |
| | | A30 | 219-017D | HOUSING | D-17 | |
| | | A32 | 435-257A | GEAR | ASSY D-17 | |
| | | A33 | 321-406A | BRACKET | ASSY DRIVE | |
| | | A34 | 321-441A | BRACKET | ASSY CARRIER | |
| | | A35 | 515-106A | PWB ASSY | ASSY SIDE | |
| | | | | | SENSOR | |
| PARTS SECTION | | | | | | |
| | | 001 | 413-165D | DRUM | ASSY UPPER(D17-PAL:D4HD/S) | NSP NSP |
| | | 002 | 413-220A | DRUM | ASSY LOWER (D17-4CH) | |
| | | 005 | 225-231A | BASE | ASSY D-BRUSH | |
| | OR | 006 | 225-220A | BASE | DRUM | |
| | | 006 | 225-220B | BASE | DRUM (W-W) | |
| | | 007 | 386-297A | ARM | SUB ASSY CU | |
| | | 008 | 442-460B | SPRING | CU | |
| | | 009 | 442-459A | SPRING | CL | |
| | | 010 | 386-295A | ARM | CL | |
| | | 011 | 442-161A | SPRING | P14 | |
| | | 012 | 384-071A | GUIDE | 17 | |
| | OR | 013 | 523-082A | HEAD | FE ,HVFMF0010AK,D-17 | |
| | | 013 | 523-082B | HEAD | FE,HVFHF0010AK | |
| | | 014 | 378-017A | SLEEVE | P1 | |
| | | 015 | 434-178A | ROLLER | P1 | |
| | OR | 015 | 434-178B | ROLLER | P1 | |
| | | 016 | 389-003B | ADJUST | P(4) | |
| | | 018 | 386-205A | ARM | ASSY TENSION | |
| | | 019 | 442-331C | SPRING | TENSION | |
| | | 020 | 328-052B | BAND | ASSY TENSION | |
| | | 027 | 435-243A | GEAR | IDLE(A) | |

to 11111

NSP: Not Service Part

| S | AL | LOCA. NO | PART NO(GS) | DESCRIPTION | SPECIFICATION | REMARKS |
|-------------|----|----------|-------------|--------------------------------|-----------------------|---------|
| | | 227 | 435-254A | GEAR | L | |
| | | 228 | 442-350A | SPRING | S/W | NSP |
| | | 229 | 333-204A | LEVER | S/W | |
| | | 230 | 423-368A | SHAFT | D | NSP |
| | | 231 | 442-353A | SPRING | R | NSP |
| | | 232 | 435-255A | GEAR | R | NSP |
| | | 233 | 435-256A | GEAR | C | NSP |
| | | 234 | 442-359C | SPRING | CUSHION (D17F/L) | NSP |
| | | 235 | 442-354A | SPRING | CC | NSP |
| | | 236 | 276-086A | CAP | DRIVE | NSP |
| SCREWS | | | | | | |
| | | 400 | 1MDC0302418 | PAN HEAD MACHINE SCREW P/WASH+ | D 3.0 L 8.0 MSWR3/FZY | |
| | | 401 | 1MPK0261418 | PAN HEAD MACHINE SCREW +,- | D 2.6 L 4.0 MSWR3/FZY | |
| | | 402 | 353-021D | SCREW | SPECIAL | |
| | | 403 | 1MPK0302418 | PAN HEAD MACHINE SCREW +,- | D 3.0 L 8.0 MSWR3/FZY | |
| | | 404 | 353-048C | SCREW | CONE POINT 3X10 | |
| | | 408 | 1MBC0302418 | BINDING HEAD MACHINE SCREW + | D 3.0 L 8.0 MSWR3/FZY | |
| | | 411 | 353-046B | SCREW | SPECIAL (3X8 FZMY) | |
| | | 412 | 1MBC0302818 | BINDING HEAD MACHINE SCREW + | D 3.0 L 12 MSWR3/FZY | |
| | | 421 | 1MPC0302618 | PAN HEAD MACHINE SCREW + | D3.0 L10.0,MSWR3/FZY | |
| | | 425 | 1CRF0302418 | BRAIZER HD TAP TITE SCREW + | D 3.0 L 8.0 MSWR3/FZY | |
| | | 426 | 1MPC0302018 | PAN HEAD MACHINE SCREW + | D 3.0 L 6.0 MSWR3/FZY | |
| NUT, WASHER | | | | | | |
| | | 502 | 354-020D | WASHER | STOPPER | |
| | | 503 | 354-020E | WASHER | STOPPER | |
| | | 504 | 354-001B | WASHER | P.S D3.1XD6X0.5T | |
| | | 505 | 354-080E | WASHER | STOPPER | |
| | | 506 | 352-025A | NUT | NYLON M3 | |
| | | 507 | 354-020J | WASHER | STOPPER(2.6X4.8X0.5) | |
| | | 512 | 354-080E | WASHER | STOPPER | NSP |
| | | 513 | 354-080A | WASHER | STOPPER | NSP |
| | | 514 | 354-080B | WASHER | STOPPER | NSP |
| | | 516 | 334-058A | STOPPER | A/C TERMINAL | |

• Cabinet & Mainframe Section

RUN-DATE : 92.06.01
NSP: Not Service Part

| S | AL | LOCA. NO | PART NO(GS) | DESCRIPTION | SPECIFICATION | REMARKS |
|------------------------|----|----------|-------------|-------------|---------------------|---------|
| ASSEMBLY PARTS SECTION | | | | | | |
| | | A43 | 258-453M | PANEL | ASSY FRONT | |
| | | A44 | 232-184D | BOARD ASSY | POWER 220V/50HZ | |
| | | A45 | 232-187A | BOARD ASSY | PRE-AMP 4HEAD | |
| | | A46 | 232-185W | BOARD ASSY | MAIN | |
| PARTS SECTION | | | | | | |
| | | 250 | 217-323B | CASE | TOP (SGM-6216) | |
| | | 260 | 315-222A | FRAME | MAIN | NSP |
| | | 261 | 327-013A | CLAMP | CORD | NSP |
| | | 265 | 477-034B | RUBBER | BUMPON | NSP |
| | | 268 | 256-887A | PLATE | FRAME GND | NSP |
| | | 269 | 321-526A | BRACKET | HOUSING | |
| | | 275 | 324-697A | HOLDER | DIGITRON | |
| | | 276 | 273-145A | KNOB | SLIDE | |
| | | 280 | 258-405C | PANEL | FRONT (6216) | NSP |
| | | 281 | 324-698A | HOLDER | LED | |
| | | 282 | 221-516L | COVER | DOOR | NSP |
| | | 283 | 226-041G | DOOR | CST | |
| | | 284 | 442-370A | SPRING | DOOR | |
| | | 285 | 236-281A | WINDOW | DECORATION | NSP |
| | | 286 | 321-480A | BRACKET | DOOR | |
| | | 287 | 256-831A | PLATE | FUNCTION (A) | NSP |
| | | 288 | 256-832A | PLATE | FUNCTION (B) | NSP |
| | | 289 | 435-233B | GEAR | DAMPER | |
| | | 290 | 275-406A | BUTTON | PROGRAM | NSP |
| | | 291 | 256-830A | PLATE | DOOR (AL) | NSP |
| | | 292 | 524-007K | MAGNET | ASSY | NSP |
| | | 293 | 273-146A | KNOB | ROTARY | |
| | | 294 | 275-405A | BUTTON | POWER | NSP |
| | | 295 | 236-282A | WINDOW | LED | NSP |
| | | 296 | 275-416A | BUTTON | TIMER (B) | NSP |
| | | 297 | 275-407A | BUTTON | TIMER (A) | NSP |
| | | 298 | 275-404A | BUTTON | FUNCTION | NSP |
| | * | 300 | 681-035A | CORD | POWER PAL W/STOPPER | |
| | | 301 | 321-462A | BRACKET | TR | |
| | | 303 | 256-886A | PLATE | HEAT SINK | |
| | | 304 | 221-407A | COVER | FUSE | |
| | | 310 | 217-313A | CASE | PRE-AMP | NSP |
| | | 311 | 221-638A | COVER | PRE-AMP "B" | NSP |
| | | 312 | 221-694A | COVER | PRE-AMP "A" | NSP |
| | | 320 | 258-406A | PANEL | DISTRIBUTOR | |
| | | 321 | 256-515N | PLATE | DISTRIBUTOR | NSP |
| | | 324 | 573-011A | SOCKET | SR-21A1-3 | |
| | | 330 | 221-633A | COVER | BOTTOM | |
| SCREWS | | | | | | |
| | | 451 | 353-046C | SCREW | (3X10 FZMY) | |
| | | 451 | 353-046C | SCREW | (3X10 FZMY) | |
| | | 452 | 353-051A | SCREW | SPECIAL | |
| | | 457 | 353-051B | SCREW | SPECIAL | |
| | | 461 | 353-046B | SCREW | SPECIAL (3X8 FZMY) | |
| | | 462 | 353-136A | SCREW | SPECIAL (FBK) | |

● Packing Accessory Section

RUN-DATE : 92.06.01
NSP: Not Service Part

| S | AL | LOCA. NO | PART NO(GS) | DESCRIPTION | SPECIFICATION | REMARKS |
|---|----|----------|-------------|------------------|-------------------------|---------|
| | | 801 | 480-381C | INSTRUCTION ASSY | R-C400W 5ET1 | NSP |
| | | 802 | 288-303D | BOX CARTON | R-C400W 5ET1 | |
| | | 803 | 283-159A | PACKING | R-C40P VD1 | |
| | | 804 | 291-002B | SHEET CUSHION | | |
| | | 808 | 554-002C | BATTERY | 1.5V AAM UM-3 LOL 1PAIR | |
| | | 810 | 861-505B | CABLE SET ASSY | RF-CABLE,ASSY,PAL | |

● Remote Control Section

RUN-DATE : 92.06.01
NSP: Not Service Part

| S | AL | LOCA. NO | PART NO(GS) | DESCRIPTION | SPECIFICATION | REMARKS |
|---|----|----------|-------------|----------------|-------------------------------|---------|
| | | 900 | 597-059F | REMOTE CONTROL | ASSY | NSP |
| | | 901 | 256-941F | PLATE | TOP R/C | |
| | | 902 | 221-626A | COVER | TOP R/C | NSP |
| | | 903 | 515-310B | PWB ASSY | R/C(1Y/8P,40POS,W/O VPS,SP/LP | NSP |
| | | 904 | 556-161E | SWITCH | RUBBER | NSP |
| | | 905 | 236-328A | WINDOW | LCD | NSP |
| | | 906 | 236-327A | WINDOW | FILTER | NSP |
| | | 907 | 221-627A | COVER | BOTTOM R/C | NSP |
| | | 908 | 221-628A | COVER | BATTERY R/C | NSP |
| | | 909 | 442-442A | SPRING | BAT.-C | |
| | | 910 | 442-441A | SPRING | BAT.-B | |
| | | 911 | 442-440A | SPRING | BAT.-A | NSP |

● Electrical Section

RUN-DATE : 92.06.01

CAUTION: The * maks in the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. Before replacing any of these components, read carefully the SAFETY PRECAUTIONS and SERVICING PRECAUTIONS in this manual. Do not degrade the safety of the unit through improper servicing.

Tolerance

| Symbol | C | J | K | M | N | Z | P | A |
|--------|----|----|-----|-----|-----|------------|-------------|-------------|
| % | ±2 | ±5 | ±10 | ±20 | ±30 | ±80 -20 | +100 -10 | +100 -10 |

CC, CJ, CK : Capacitor, Ceramic
DE : Capacitor, Electrolytic
CQ : Capacitor, Polyester

| S | AL | LOCA. NO | PART NO(GS) | SPECIFICATION | S | AL | LOCA. NO | PART NO(GS) | SPECIFICATION |
|-----------|----|----------|-------------|----------------------------|---|----|----------|-------------|----------------------------|
| CAPACITOR | | | | | * | | C106 | OCE4766F630 | 47M SMS 16V M FM5 |
| | | C001 | OCE4764F638 | 47M SRA/SS 16V M FM5 TP(5) | | | C107 | OCK2230K940 | 0.022M 50V Z F S |
| | | C002 | OCN1030F678 | 0.01M 16V M Y TA26 | | | C108 | OCE4766F630 | 47M SMS 16V M FM5 |
| | | C003 | OCN1030F678 | 0.01M 16V M Y TA26 | | | C109 | OCE4766F630 | 47M SMS 16V M FM5 |
| | | C004 | OCN1030F678 | 0.01M 16V M Y TA26 | | | C110 | OCK2230K940 | 0.022M 50V Z F S |
| | | C005 | OCX3300K015 | 3P 50V C NP0 TS | | | C112 | OCE4766F630 | 47M SMS 16V M FM5 |
| | | C006 | OCN1030F678 | 0.01M 16V M Y TA26 | | | C113 | OCE4766F630 | 47M SMS 16V M FM5 |
| | | C007 | OCX1500K408 | 15P 50V J SL TA26 | | | C116 | OCE4766F630 | 47M SMS 16V M FM5 |
| | | C008 | OCN1030F678 | 0.01M 16V M Y TA26 | | | C117 | OCE4766F630 | 47M SMS 16V M FM5 |
| | | C009 | OCN3310K518 | 330P 50V K B TA26 | | | C118 | OCE4766F630 | 47M SMS 16V M FM5 |
| | | C010 | OCN3310K518 | 330P 50V K B TA26 | | | C119 | OCK2230K940 | 0.022M 50V Z F S |
| | | C011 | OCN1030F678 | 0.01M 16V M Y TA26 | | | C120 | OCK2230K940 | 0.022M 50V Z F S |
| | | C012 | OCN1030F678 | 0.01M 16V M Y TA26 | | | C121 | OCE1076L610 | 100M SMS 63V M FM5 |
| | | C013 | OCE1044K638 | 0.1M SRA 50V M FM5 TP(5) | | | C122 | OCK2230K940 | 0.022M 50V Z F S |
| | | C014 | OCN1030F678 | 0.01M 16V M Y TA26 | | | C123 | OCK2230K940 | 0.022M 50V Z F S |
| | | C015 | OCX3900K408 | 39P 50V J SL TA26 | | | C124 | OCE1076L610 | 100M SMS 63V M FM5 |
| | | C016 | OCE4764F638 | 47M SRA/SS 16V M FM5 TP(5) | | | C125 | 624-018A | LINE DE7100 FZ 472P VA1-KC |
| | | C017 | OCN1030F678 | 0.01M 16V M Y TA26 | | | C126 | 624-018A | LINE DE7100 FZ 472P VA1-KC |
| | | C019 | OCX3300K408 | 33P 50V J SL TA26 | | | C131 | OCE4766K630 | 47M SMS 50V M FM5 |
| | | C020 | OCN2230H948 | 0.022M 25V Z F TA26 | | | C132 | OCE4766K630 | 47M SMS 50V M FM5 |
| | | C021 | OCX3900K408 | 39P 50V J SL TA26 | | | C201 | OCQ4731N409 | 0.047U 100V J POLY TP |
| | | C022 | OCX2200K408 | 22P 50V J SL TP26 | | | C202 | OCQ4731N409 | 0.047U 100V J POLY TP |
| | | C023 | OCE4764F638 | 47M SRA/SS 16V M FM5 TP(5) | | | C203 | OCE1051K636 | 1.0U SM 50V M FM5 BP TP(D) |
| | | C024 | OCN1030F678 | 0.01M 16V M Y TA26 | | | C204 | OCE1066H638 | 10M SMS 25V M FM5 TP |
| | | C025 | OCN2230H948 | 0.022M 25V Z F TA26 | | | C205 | OCE1066H638 | 10M SMS 25V M FM5 TP |
| | | C026 | OCE2244K638 | 0.22M SRA 50V M FM5 TP(5) | | | C206 | OCE4756K638 | 4.7M SMS 50V M FM5 TP(5) |
| | | C027 | OCX0500K015 | 5P 50V C NP0 TR | | | C207 | OCE4756K638 | 4.7M SMS 50V M FM5 TP(5) |
| | | C028 | OCX1000K408 | 10P 50V J SL TA26 | | | C208 | OCE1051K636 | 1.0U SM 50V M FM5 BP TP(D) |
| | | C029 | OCE2244K638 | 0.22M SRA 50V M FM5 TP(5) | | | C209 | OCQ1221N409 | 0.0012U 100V J POLY TP |
| | | C030 | OCN2230H948 | 0.022M 25V Z F TA26 | | | C210 | OCQ1021N409 | 0.001U 100V J POLY TP |
| | | C031 | OCN2230H948 | 0.022M 25V Z F TA26 | | | C211 | OCE4766H638 | 47M SMS 25V M FM5 TP5 |
| | | C032 | OCE2244K638 | 0.22M SRA 50V M FM5 TP(5) | | | C212 | OCE1066H638 | 10M SMS 25V M FM5 TP |
| | | C033 | OCX3300K408 | 33P 50V J SL TA26 | | | C213 | OCN3310K518 | 330P 50V K B TA26 |
| | | C034 | OCX1500K408 | 15P 50V J SL TA26 | | | C214 | OCN1510K518 | 150P 50V K B TA26 |
| | | C036 | OCE2244K638 | 0.22M SRA 50V M FM5 TP(5) | | | C215 | OCE4756K638 | 4.7M SMS 50V M FM5 TP(5) |
| | | C037 | OCN2230H948 | 0.022M 25V Z F TA26 | | | C216 | OCN1010K518 | 100P 50V K B TA26 |
| | | C038 | OCN1030F678 | 0.01M 16V M Y TA26 | | | C217 | OCN1010K518 | 100P 50V K B TA26 |
| | | C039 | OCN1030F678 | 0.01M 16V M Y TA26 | | | C218 | OCE1076F638 | 100M SMS 16V M FM5 TP(5) |
| | | C101 | OCK2230K940 | 0.022M 50V Z F S | * | | C219 | OCK4730K945 | 0.047U 50V Z F TS |
| | | C102 | OCK2230K940 | 0.022M 50V Z F S | | | C220 | OCE2276F638 | 220U SMS 16V M FM5 TP(5) |
| | | C103 | 624-025A | 4700UF-35V(23X37) | | | C221 | OCK4730K945 | 0.047U 50V Z F TS |
| | | C104 | OCE4786F610 | 4700M SMS 16V M FL | | | C222 | OCE2276F638 | 220U SMS 16V M FM5 TP(5) |
| | | C105 | OCE4766F630 | 47M SMS 16V M FM5 | | | C223 | OCK4730K945 | 0.047U 50V Z F TS |
| | | | | | | | C224 | OCX2700K408 | 27P 50V J SL TA26 |
| | | | | | | | C225 | OCN1040K948 | 0.1M 50V Z F TA26 |

| S | AL | LOCA. NO | PART NO(GS) | SPECIFICATION |
|---|----|----------|-------------|---------------------------|
| | | C227 | OCQ2231N409 | 0.022U 100V J POLY TP |
| | | C228 | OCQ2231N409 | 0.022U 100V J POLY TP |
| | | C229 | OCE1076F638 | 100M SMS 16V M FMS TP(5) |
| | | C230 | OCE1056K638 | 1.0M SMS 50V M FMS TP(5) |
| | | C231 | OCE1046K638 | 0.1M SMS 50V M FMS TP(5) |
| | | C232 | OCQ1021N409 | 0.001U 100V J POLY TP |
| | | C233 | OCE1056K638 | 1.0M SMS 50V M FMS TP(5) |
| | | C234 | OCE1056K638 | 1.0M SMS 50V M FMS TP(5) |
| | | C235 | OCE4746K638 | 0.47M SMS 50V M TP(5) |
| | | C236 | OCE1056K638 | 1.0M SMS 50V M FMS TP(5) |
| | | C237 | OCK4730K945 | 0.047U 50V Z F TS |
| | | C238 | OCQ4731N409 | 0.047U 100V J POLY TP |
| | | C239 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C240 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C241 | OCQ2221N409 | 0.0022U 100V J POLY TP |
| | | C242 | OCK4730K945 | 0.047U 50V Z F TS |
| | | C301 | OCE4766F638 | 47M SMS 16V M FMS TP5 |
| | | C302 | OCX5600K408 | 56P 50V J SL TA26 |
| | | C303 | OCX6800K408 | 68P 50V J SL TA26 |
| | | C304 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C305 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C306 | OCE3356K638 | 3.3M SMS 50V M FMS TP(5) |
| | | C307 | OCE4756K638 | 4.7M SMS 50V M FMS TP(5) |
| | | C308 | OCN2230H948 | 0.022M 25V Z F TA26 |
| | | C309 | OCE4766F638 | 47M SMS 16V M FMS TP5 |
| | | C312 | OCE4766F638 | 47M SMS 16V M FMS TP5 |
| | | C313 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C314 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C315 | OCE4766F638 | 47M SMS 16V M FMS TP5 |
| | | C316 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C317 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C318 | OCE4766F638 | 47M SMS 16V M FMS TP5 |
| | | C319 | OCX1500K408 | 15P 50V J SL TA26 |
| | | C320 | OCE4766F638 | 47M SMS 16V M FMS TP5 |
| | | C321 | OCX2400K408 | 24P 50V J SL TA26 |
| | | C322 | OCE4766F638 | 47M SMS 16V M FMS TP5 |
| | | C323 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C324 | OCE1076F638 | 100M SMS 16V M FMS TP(5) |
| | | C325 | OCE3346K638 | 0.33M SMS 50V M FMS TP(5) |
| | | C326 | OCE2266H638 | 22M SMS 25V M FMS TP5 |
| | | C327 | OCE1066H638 | 10M SMS 25V M FMS TP |
| | | C328 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C329 | OCE4756K638 | 4.7M SMS 50V M FMS TP(5) |
| | | C330 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C331 | OCE4766F638 | 47M SMS 16V M FMS TP5 |
| | | C332 | OCX2400K408 | 24P 50V J SL TA26 |
| | | C333 | OCN8200K518 | 82PF 50V K B TA26 |
| | | C334 | OCX2400K408 | 24P 50V J SL TA26 |
| | | C335 | OCE3366F638 | 33M SMS 16V M FMS TP(5) |
| | | C336 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C337 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C338 | OCX6800K408 | 68P 50V J SL TA26 |
| | | C339 | OCE4766F638 | 47M SMS 16V M FMS TP5 |
| | | C340 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C341 | OCE4766F638 | 47M SMS 16V M FMS TP5 |
| | | C342 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C343 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C345 | OCX6800K408 | 68P 50V J SL TA26 |
| | | C346 | OCE1066H638 | 10M SMS 25V M FMS TP |
| | | C347 | OCE4774F638 | 470M SRA 16V M FMS TP(5) |
| | | C348 | OCE4774F638 | 470M SRA 16V M FMS TP(5) |
| | | C350 | OCE4766F638 | 47M SMS 16V M FMS TP5 |
| | | C351 | OCE4766F638 | 47M SMS 16V M FMS TP5 |
| | | C352 | OCN1030F678 | 0.01M 16V M Y TA26 |

| S | AL | LOCA. NO | PART NO(GS) | SPECIFICATION |
|---|----|----------|-------------|----------------------------|
| | | C354 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C355 | OCE3346K638 | 0.33M SMS 50V M FMS TP(5) |
| | | C356 | OCQ5631N509 | 0.056U 100V K POLY TP |
| | | C4F1 | OCX0100K608 | 1.0P 50V M SL TA(26) |
| | | C4L1 | OCQ8231N409 | 0.082U 100V J POLY TP |
| | | C4L2 | OCQ1521N409 | 0.0015U 100V J POLY TP |
| | | C401 | OCE4766F638 | 47M SMS 16V M FMS TP5 |
| | | C402 | OCQ2231N409 | 0.022U 100V J POLY TP |
| | | C404 | OCN3910K518 | 390P 50V K B TA26 |
| | | C406 | OCE1066H638 | 10M SMS 25V M FMS TP |
| | | C407 | OCQ1031N409 | 0.01U 100V J POLY TP |
| | | C408 | OCE1066H638 | 10M SMS 25V M FMS TP |
| | | C409 | OCE3364F638 | 33M SRA 16V M FMS TP(5) |
| | | C410 | OCQ1021N409 | 0.001U 100V J POLY TP |
| | | C411 | OCE1066H638 | 10M SMS 25V M FMS TP |
| | | C412 | OCE1066H638 | 10M SMS 25V M FMS TP |
| | | C413 | OCE4766F638 | 47M SMS 16V M FMS TP5 |
| | | C415 | OCE4766F638 | 47M SMS 16V M FMS TP5 |
| | | C416 | OCE1066H638 | 10M SMS 25V M FMS TP |
| | | C417 | OCQ1231N409 | 0.012U 100V J POLY TP |
| | | C419 | OCE4756K638 | 4.7M SMS 50V M FMS TP(5) |
| | | C420 | OCQ1221N409 | 0.0012U 100V J POLY TP |
| | | C421 | OCE1066H638 | 10M SMS 25V M FMS TP |
| | | C422 | OCE1066H638 | 10M SMS 25V M FMS TP |
| | | C423 | OCE1066H638 | 10M SMS 25V M FMS TP |
| | | C426 | OCQ1031N409 | 0.01U 100V J POLY TP |
| | | C427 | OCQ1031N409 | 0.01U 100V J POLY TP |
| | | C428 | OCQ6831N409 | 0.068U 100V J POLY TP |
| | | C430 | OCN2210K518 | 220P 50V K B TA26 |
| | | C431 | OCQ2231N409 | 0.022U 100V J POLY TP |
| | | C432 | OCE4766F638 | 47M SMS 16V M FMS TP5 |
| | | C433 | OCE2266F638 | 22M SMS 16V M FMS TP5 |
| | | C435 | OCE2246K638 | 0.22M SMS 50V M FMS TP(5) |
| | | C501 | OCE2266F636 | 22M SMS 16V M FMS BP TP(D) |
| | | C502 | OCN1020K518 | 1000P 50V K B TA26 |
| | | C503 | OCN1020K518 | 1000P 50V K B TA26 |
| | | C504 | OCN2230H948 | 0.022M 25V Z F TA26 |
| | | C505 | OCN2230H948 | 0.022M 25V Z F TA26 |
| | | C506 | OCN2230H948 | 0.022M 25V Z F TA26 |
| | | C507 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C508 | OCE1056K638 | 1.0M SMS 50V M FMS TP(5) |
| | | C509 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C510 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C511 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C512 | OCE4766F638 | 47M SMS 16V M FMS TP5 |
| | | C513 | OCE4766F638 | 47M SMS 16V M FMS TP5 |
| | | C514 | OCE4766F638 | 47M SMS 16V M FMS TP5 |
| | | C515 | OCE4766F638 | 47M SMS 16V M FMS TP5 |
| | | C516 | OCE1056K638 | 1.0M SMS 50V M FMS TP(5) |
| | | C517 | OCE4774F638 | 470M SRA 16V M FMS TP(5) |
| | | C601 | 624-070B | ACE CAP.AC310G473Z5R5 BULK |
| | | C602 | OCQ2400K412 | 24P 50V J NPO F |
| | | C603 | OCQ2400K412 | 24P 50V J NPO F |
| | | C604 | OCE2266F630 | 22M SMS 16V M FMS |
| | | C605 | OCE4766F630 | 47M SMS 16V M FMS |
| | | C606 | OCE4766F630 | 47M SMS 16V M FMS |
| | | C607 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C608 | OCE4746K630 | 0.47M SMS 50V M FMS |
| | | C701 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C702 | OCE4766F638 | 47M SMS 16V M FMS TP5 |
| | | C703 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C706 | OCX4700K408 | 47P 50V J SL TA26 |
| | | C707 | OCX4700K408 | 47P 50V J SL TA26 |

| S | AL | LOCA. NO | PART NO(GS) | SPECIFICATION |
|---|----|----------|-------------|--------------------------|
| | | C708 | OCE1056K638 | 1.0M SMS 50V M FMS TP(5) |
| | | C709 | OCE2256K638 | 2.2M SMS 50V M FMS TP(5) |
| | | C710 | OCN3310K518 | 330P 50V K B TA26 |
| | | C711 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C712 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C713 | OCE1076F638 | 100M SMS 16V M FMS TP(5) |
| | | C714 | OCQ1031N409 | 0.01U 100V J POLY TP |
| | | C715 | OCN1810K518 | 180P 50V K B TA26 |
| | | C716 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C717 | OCE1076F638 | 100M SMS 16V M FMS TP(5) |
| | | C718 | OCE4766F638 | 47M SMS 16V M FMS TP5 |
| | | C719 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C720 | OCX3300K408 | 33P 50V J SL TA26 |
| | | C721 | OCX2700K408 | 27P 50V J SL TA26 |
| | | C723 | OCE2256K638 | 2.2M SMS 50V M FMS TP(5) |
| | | C724 | OCE2256K638 | 2.2M SMS 50V M FMS TP(5) |
| | | C725 | OCQ6821N409 | 0.0068U 100V J POLY TP |
| | | C726 | OCQ4721N409 | 0.0047U 100V J POLY TP |
| | | C727 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C728 | OCE4766F638 | 47M SMS 16V M FMS TP5 |
| | | C729 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C730 | OCE4766F638 | 47M SMS 16V M FMS TP5 |
| | | C731 | OCN4710K518 | 470P 50V K B TA26 |
| | | C732 | OCN4710K518 | 470P 50V K B TA26 |
| | | C733 | OCN4710K518 | 470P 50V K B TA26 |
| | | C735 | OCE1066H638 | 10M SMS 25V M FMS TP |
| | | C736 | OCE1066H638 | 10M SMS 25V M FMS TP |
| | | C737 | OCQ8211N449 | 820P 100V J PYLN TP |
| | | C738 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C739 | OCE4766F638 | 47M SMS 16V M FMS TP5 |
| | | C740 | OCX4700K408 | 47P 50V J SL TA26 |
| | | C741 | OCQ4731N409 | 0.047U 100V J POLY TP |
| | | C901 | OCN2230H948 | 0.022M 25V Z F TA26 |
| | | C902 | OCE4766F638 | 47M SMS 16V M FMS TP5 |
| | | C903 | OCX4700K408 | 47P 50V J SL TA26 |
| | | C904 | OCX2400K408 | 24P 50V J SL TA26 |
| | | C905 | OCN1020K518 | 1000P 50V K B TA26 |
| | | C906 | OCE1046K638 | 0.1M SMS 50V M FMS TP(5) |
| | | C907 | OCE4756K638 | 4.7M SMS 50V M FMS TP(5) |
| | | C908 | OCE4766F638 | 47M SMS 16V M FMS TP5 |
| | | C909 | OCN2230H948 | 0.022M 25V Z F TA26 |
| | | C910 | OCE1056K638 | 1.0M SMS 50V M FMS TP(5) |
| | | C911 | OCE1056K638 | 1.0M SMS 50V M FMS TP(5) |
| | | C912 | OCE1066H638 | 10M SMS 25V M FMS TP |
| | | C913 | OCQ3321N409 | 0.0033U 100V J POLY TP |
| | | C914 | OCX1500K408 | 15P 50V J SL TA26 |
| | | C915 | OCX2700K408 | 27P 50V J SL TA26 |
| | | C916 | OCX3300K408 | 33P 50V J SL TA26 |
| | | C918 | OCX3300K408 | 33P 50V J SL TA26 |
| | | C919 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C920 | OCE2276F638 | 220U SMS 16V M FMS TP(5) |
| | | C922 | OCQ6831N409 | 0.068U 100V J POLY TP |
| | | C923 | OCE1056K638 | 1.0M SMS 50V M FMS TP(5) |
| | | C924 | OCN1010K518 | 100P 50V K B TA26 |
| | | C925 | OCQ2721N409 | 0.0027M 100V J POLY TP |
| | | C926 | OCQ1021N409 | 0.001U 100V J POLY TP |
| | | C927 | OCN2230H948 | 0.022M 25V Z F TA26 |
| | | C928 | OCE4766F638 | 47M SMS 16V M FMS TP5 |
| | | C929 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C930 | OCN1030F678 | 0.01M 16V M Y TA26 |
| | | C931 | OCE1066H638 | 10M SMS 25V M FMS TP |
| | | C932 | OCN1030F678 | 0.01M 16V M Y TA26 |

| S | AL | LOCA. NO | PART NO(GS) | SPECIFICATION |
|--------------|----|----------|-------------|-------------------------------|
| DISPLAY TUBE | | | | |
| | | DG601 | 514-024A | 11BT-89GK SEJIN |
| DELAY LINE | | | | |
| | | DL301 | 617-022B | ADL-FE 2245E PAL ASAHI GLASS |
| DIODE | | | | |
| * | | D001 | ODD131009AA | 1SS131 DETECT,SW(26MM)TP ROHM |
| * | | D101 | ODD402000AC | BRIDGE RBA-402 SANKEN |
| | | D102 | ODD402000AC | BRIDGE RBA-402 SANKEN |
| | | D109 | ODD400309AB | IN4003A(1SR35-200A)5M/M TP RO |
| | | D110 | ODD400309AB | IN4003A(1SR35-200A)5M/M TP RO |
| | | D111 | ODD400309AB | IN4003A(1SR35-200A)5M/M TP RO |
| | | D113 | ODD400309AB | IN4003A(1SR35-200A)5M/M TP RO |
| | | D114 | ODD400309AB | IN4003A(1SR35-200A)5M/M TP RO |
| | | D201 | ODD131009AA | 1SS131 DETECT,SW(26MM)TP ROHM |
| | | D202 | ODD131009AA | 1SS131 DETECT,SW(26MM)TP ROHM |
| | | D207 | ODD131009AA | 1SS131 DETECT,SW(26MM)TP ROHM |
| | | D208 | ODD131009AA | 1SS131 DETECT,SW(26MM)TP ROHM |
| | | D209 | ODD131009AA | 1SS131 DETECT,SW(26MM)TP ROHM |
| | | D210 | ODD131009AA | 1SS131 DETECT,SW(26MM)TP ROHM |
| | | D211 | ODD131009AA | 1SS131 DETECT,SW(26MM)TP ROHM |
| | | D212 | ODD131009AA | 1SS131 DETECT,SW(26MM)TP ROHM |
| | | D213 | ODD131009AA | 1SS131 DETECT,SW(26MM)TP ROHM |
| | | D401 | ODD131009AA | 1SS131 DETECT,SW(26MM)TP ROHM |
| | | D402 | ODD131009AA | 1SS131 DETECT,SW(26MM)TP ROHM |
| | | D403 | ODD131009AA | 1SS131 DETECT,SW(26MM)TP ROHM |
| | | D407 | ODD131009AA | 1SS131 DETECT,SW(26MM)TP ROHM |
| | | D501 | ODD400309AB | IN4003A(1SR35-200A)5M/M TP RO |
| | | D502 | ODD131009AA | 1SS131 DETECT,SW(26MM)TP ROHM |
| | | D503 | ODD131009AA | 1SS131 DETECT,SW(26MM)TP ROHM |
| | | D504 | ODD131009AA | 1SS131 DETECT,SW(26MM)TP ROHM |
| | | D601 | ODD131009AA | 1SS131 DETECT,SW(26MM)TP ROHM |
| | | D602 | ODD131009AA | 1SS131 DETECT,SW(26MM)TP RO |

| S | AL | LOCA. NO | PART NO(GS) | SPECIFICATION |
|------|----|----------|-------------|-------------------------------|
| | | FL401 | 616-069A | LPF 12KHZ 253AGGS-1066 |
| | | Z701 | 616-622A | SAW TSF5321 SECAM S SANYO |
| | | Z702 | 616-036B | TRAP TPS5.5MB MURA |
| | | Z703 | 616-038D | CERAMIC SFT5.5MA MURATA |
| | | Z704 | 616-039G | CERAMIC CDA6.5MEZ1 |
| | | Z705 | 616-321B | SFE6.5MC MURATA |
| | | Z706 | 616-341A | CERAMIC TPS6.5MB |
| FUSE | | | | |
| * | | F001 | 616-087A | 1.5MHZ HPF (DAISHIN) |
| * | OR | F101 | 585-011A | T 500MA 250V S504 |
| * | | F101 | 585-012A | T500MA,250V PAL (SOC) |
| * | | F102 | 585-011H | T 2.5A, 250V S506 |
| * | | F103 | 585-011H | T 2.5A, 250V S506 |
| IC | | | | |
| | | IC001 | OIHI118019A | HA118019NT(PRE-AMP 4HD) |
| | | IC101 | OIMA780600A | AN7806 6V1AREG MATSUSHITA |
| | | IC102 | OIMA780600A | AN7806 6V1AREG MATSUSHITA |
| | | IC201 | OIHI497560A | HD49756NT(SERVO) |
| | | IC202 | OIRH728000B | BA728N(DUAL OP-AMP)SIP |
| | | IC203 | OIRH704800A | BA7048N(ENVELOPE-DETECT) |
| | | IC301 | 669-073A | GSH-7505P(BU7505BK1)Y/C.GST |
| | | IC302 | OIRH702500A | BA7025L PAL/MESECAM SYNC DETE |
| | | IC303 | OIKK740100A | MSM7401RS 2H-DL PAL |
| | | IC304 | OIGS381600A | GL3816 |
| | OR | IC304 | OISA701600A | LA7016 ANALOG SW |
| | | IC401 | OISA729500A | LA7295 (1280 AUDIO) |
| | | IC402 | OISA701600A | LA7016 ANALOG SW |
| | | IC501 | OIMI509630J | M50963-410FP(SYS.C40P) |
| | | IC502 | OIGS744500A | GL7445 (MOTOR DRIV-1CH) GSS |
| | OR | IC502 | OISA164100A | LB1641(1-CH)MOTOR DRIV SANYO |
| | | IC503 | OIMT523000B | PST-523G(3.3V) LOW MITUSMI |
| | OR | IC601 | OIMI381025Q | M38102M5-131SP(TIMER)C40P |
| | | IC602 | OICA240200A | CH24C02 EEP-ROM(2K CMOS) |
| | | IC602 | OIXI240200B | X24C02.8D EEP-ROM(2K CMOS) |
| | | IC603 | OIMT523000B | PST-523G(3.3V) LOW MITUSMI |
| | | IC701 | OISA754500A | LA7545 (1280 T/IF) |
| | | IC901 | OIMI505560A | M50556-055SP(OSD 64CHAR)G41M |
| | | IC902 | OIJR222900A | NJM2229S SYNC SEPA (SIP PACK) |
| | | IC903 | OIJR224900A | NJM2249L S/W (8 PIN SIP) |
| LED | | | | |
| | | LD601 | ODL162000AA | KLR162E (RD) KEC |
| COIL | | | | |
| | | L001 | OLR1000K035 | 100M K 6X6 L5 TP |
| | | L002 | OLA0272K018 | 27M K 2.3X3.4 L5 TP |
| | | L003 | OLA0272K018 | 27M K 2.3X3.4 L5 TP |
| | | L004 | OLA0152K018 | 15M K 2.3X3.4 L5 TP |
| | | L005 | OLA1800K018 | 180M K 2.3X3.4 L5 TP |
| | | L006 | OLA0392K018 | 39M K 2.3X3.4 L5 TP |
| | | L007 | OLR1000K035 | 100M K 6X6 L5 TP |
| | | L008 | OLA0152K018 | 15M K 2.3X3.4 L5 TP |
| | | L009 | OLR1000K035 | 100M K 6X6 L5 TP |
| | | L201 | OLR1000K035 | 100M K 6X6 L5 TP |
| | | L202 | OLA0472K018 | 47M K 2.3X3.4 L5 TP |
| | | L3A1 | OLA0152K018 | 15M K 2.3X3.4 L5 TP |
| | | L301 | OLR1000K035 | 100M K 6X6 L5 TP |
| | | L302 | OLR1000K035 | 100M K 6X6 L5 TP |

| S | AL | LOCA. NO | PART NO(GS) | SPECIFICATION |
|-------------------------------|----|----------|-------------|------------------------------|
| | | L303 | OLA0682K018 | 68M K 2.3X3.4 L5 TP |
| | | L304 | OLA0562K018 | 56M K 2.3X3.4 L5 TP |
| | | L305 | OLR1000K035 | 100M K 6X6 L5 TP |
| | | L306 | OLA0331K018 | 3.3UH K 2.3X3.4 L5 TP |
| | | L307 | OLR1000K035 | 100M K 6X6 L5 TP |
| | | L308 | OLR1000K035 | 100M K 6X6 L5 TP |
| | | L309 | OLR1000K035 | 100M K 6X6 L5 TP |
| | | L310 | OLA0472K018 | 47M K 2.3X3.4 L5 TP |
| | | L311 | OLR1000K035 | 100M K 6X6 L5 TP |
| | | L313 | OLA0682K018 | 68M K 2.3X3.4 L5 TP |
| | | L314 | OLA0682K018 | 68M K 2.3X3.4 L5 TP |
| | | L315 | OLR1000K035 | 100M K 6X6 L5 TP |
| | | L316 | 637-013B | PECK 6.80MH-J NYE |
| | | L4F1 | OLA0181K018 | 1.8M K 2.3X3.4 L5 TP |
| | | L401 | OLR1000K035 | 100M K 6X6 L5 TP |
| | | L403 | OLR1000K035 | 100M K 6X6 L5 TP |
| | | L404 | 637-013C | PEAK 15.0MH-J NYE |
| | | L407 | OLR1000K035 | 100M K 6X6 L5 TP |
| | | L4F2 | OLA0181K018 | 1.8M K 2.3X3.4 L5 TP |
| | | L4F3 | OLA0181K018 | 1.8M K 2.3X3.4 L5 TP |
| | | L501 | OLR1000K035 | 100M K 6X6 L5 TP |
| | | L601 | OLR1000K530 | 100M K 6X6 F BULK |
| | | L701 | OLR1000K035 | 100M K 6X6 L5 TP |
| | | L702 | OLR0681K035 | 6.8M K 6X6 L5 TP |
| | | L703 | OLA0102K018 | 10M K 2.3X3.4 L5 TP |
| | | L704 | OLA0152K018 | 15M K 2.3X3.4 L5 TP |
| | | L705 | OLA0222K018 | 22M K 2.3X3.4 L5 TP |
| | | L706 | OLR1000K035 | 100M K 6X6 L5 TP |
| | | L707 | OLR1000K035 | 100M K 6X6 L5 TP |
| | | L708 | OLR1000K035 | 100M K 6X6 L5 TP |
| | | L709 | OLA0332K018 | 33M K 2.3X3.4 L5 TP |
| | | L710 | OLR1000K035 | 100M K 6X6 L5 TP |
| | | L711 | OLR1000K035 | 100M K 6X6 L5 TP |
| | | L712 | OLR1000K035 | 100M K 6X6 L5 TP |
| | | L901 | OLR1000K035 | 100M K 6X6 L5 TP |
| | | L902 | OLA0222K018 | 22M K 2.3X3.4 L5 TP |
| | | L903 | OLA0222K018 | 22M K 2.3X3.4 L5 TP |
| | | L904 | OLA0152K018 | 15M K 2.3X3.4 L5 TP |
| | | L905 | OLA0332K018 | 33M K 2.3X3.4 L5 TP |
| | | L906 | OLR1000K035 | 100M K 6X6 L5 TP |
| | | L907 | OLR1000K035 | 100M K 6X6 L5 TP |
| | | T401 | 633-032C | BIAS-OSC(MISUMI) 70KHZ |
| | | T701 | 633-021C | PIF(D/S) |
| | | T702 | 633-042B | SIF DET COIL GHV-1245W |
| MODULATOR | | | | |
| | | MD701 | 592-907A | MDF33-UD3627 PAL-G/K MITSUMI |
| C.B.A(CIRCUIT BOARD ASSEMBLY) | | | | |
| | | PBA00 | 515-187A | PRE-AMP |
| | | PBK00 | 515-421A | KEY-BOARD (R-C40P) |
| | | PBM00 | 515-185W | MAIN (R-C40W) |
| | | PBP00 | 515-184D | POWER (R-C40W,220V/50HZ) |
| | | PBT00 | 515-188B | TIMER (R-C40W) |
| TRANSFORMER | | | | |
| | OR | PT101 | 641-033B | 225V/240V/50.60HZ |
| | | PT101 | 641-333B | 225V/240V/50.60HZ |

| S | AL | LOCA. NO | PART NO(GS) | SPECIFICATION |
|------------|----|----------|-------------|-------------------------------|
| TRANSISTOR | | | | |
| | | Q001 | OTR120309AA | KN1203=KRC1203=KRC103M TP KEC |
| | | Q002 | OTR319809AA | KTC3198-TP-Y (KTC1815)KEC |
| | | Q003 | OTR319809AA | KTC3198-TP-Y (KTC1815)KEC |
| | | Q004 | OTR319809AA | KTC3198-TP-Y (KTC1815)KEC |
| | | Q005 | OTR126609AE | KTA1266-GR,TP(KTA1015).KEC |
| | | Q006 | OTR120309AA | KN1203=KRC1203=KRC103M TP KEC |
| | | Q007 | OTR120309AA | KN1203=KRC1203=KRC103M TP KEC |
| | | Q008 | OTR120309AA | KN1203=KRC1203=KRC103M TP KEC |
| | | Q101 | OTR141400AA | KTD1414 POWER (220 PACK) KEC |
| | | Q103 | OTR120300AB | KN1203=KRC1203=KRC103M(DEGI)K |
| | | Q104 | OTR220900AA | DEGI KN2209 FORMING KEC |
| | | Q105 | OTR966000AA | KTA966A-Y=KTC1273-Y KE |
| | | Q106 | OTR220900AA | DEGI KN2209 FORMING KEC |
| | | Q107 | OTR120300AB | KN1203=KRC1203=KRC103M(DEGI)K |
| | | Q109 | OTR223600AA | KTC2236A-Y=KTC3205Y KEC |
| | | Q110 | OTR141400AA | KTD1414 POWER (220 PACK) KEC |
| | | Q201 | OTR220309AA | KN2203=KRA2203=KRA103M TP KEC |
| | | Q202 | OTR220309AA | KN2203=KRA2203=KRA103M TP KEC |
| | | Q203 | OTR220309AA | KN2203=KRA2203=KRA103M TP KEC |
| | | Q205 | OTR120309AA | KN1203=KRC1203=KRC103M TP KEC |
| | | Q206 | OTR120309AA | KN1203=KRC1203=KRC103M TP KEC |
| | | Q207 | OTR319809AA | KTC3198-TP-Y (KTC1815)KEC |
| | | Q301 | OTR319809AA | KTC3198-TP-Y (KTC1815)KEC |
| | | Q302 | OTR120309AA | KN1203=KRC1203=KRC103M TP KEC |
| | | Q303 | OTR120309AA | KN1203=KRC1203=KRC103M TP KEC |
| | | Q304 | OTR319809AA | KTC3198-TP-Y (KTC1815)KEC |
| | | Q306 | OTR126609AE | KTA1266-GR,TP(KTA1015).KEC |
| | | Q307 | OTR319809AA | KTC3198-TP-Y (KTC1815)KEC |
| | | Q308 | OTR126609AE | KTA1266-GR,TP(KTA1015).KEC |
| | | Q309 | OTR120309AA | KN1203=KRC1203=KRC103M TP KEC |
| | | Q310 | OTR120309AA | KN1203=KRC1203=KRC103M TP KEC |
| | | Q311 | OTR120309AA | KN1203=KRC1203=KRC103M TP KEC |
| | | Q312 | OTR126609AE | KTA1266-GR,TP(KTA1015).KEC |
| | | Q401 | OTR319809AA | KTC3198-TP-Y (KTC1815)KEC |
| | | Q402 | OTR126609AE | KTA1266-GR,TP(KTA1015).KEC |
| | | Q403 | OTR120309AA | KN1203=KRC1203=KRC103M TP KEC |
| | | Q405 | OTR223609AB | KTC2236A-Y=KTC3205Y TP KEC |
| | | Q501 | OTR120409AA | KN1204=KRC1204=KRC104M TP KEC |
| | | Q502 | OTR120309AA | KN1203=KRC1203=KRC103M TP KEC |
| | | Q503 | OTR120409AA | KN1204=KRC1204=KRC104M TP KEC |
| | | Q504 | OTR120309AA | KN1203=KRC1203=KRC103M TP KEC |
| | | Q505 | OTR120309AA | KN1203=KRC1203=KRC103M TP KEC |
| | | Q506 | OTR120309AA | KN1203=KRC1203=KRC103M TP KEC |
| | | Q507 | OTR223609AB | KTC2236A-Y=KTC3205Y TP KEC |
| | | Q701 | OTR388009AB | KTC388A-Y=KTC3197Y TP KEC |
| | | Q705 | OTR319809AA | KTC3198-TP-Y (KTC1815)KEC |
| | | Q706 | OTR120309AA | KN1203=KRC1203=KRC103M TP KEC |
| | | Q707 | OTR319809AA | KTC3198-TP-Y (KTC1815)KEC |
| | | Q708 | OTR319809AA | KTC3198-TP-Y (KTC1815)KEC |
| | | Q709 | OTR319809AA | KTC3198-TP-Y (KTC1815)KEC |
| | | Q710 | OTR319809AA | KTC3198-TP-Y (KTC1815)KEC |
| | | Q711 | OTR126609AE | KTA1266-GR,TP(KTA1015).KEC |
| | | Q712 | OTR319809AA | KTC3198-TP-Y (KTC1815)KEC |
| | | Q902 | OTR120309AA | KN1203=KRC1203=KRC103M TP KEC |
| | | Q903 | OTR319809AA | KTC3198-TP-Y (KTC1815)KEC |
| | | Q904 | OTR319809AA | KTC3198-TP-Y (KTC1815)KEC |
| | | Q905 | OTR319809AA | KTC3198-TP-Y (KTC1815)KEC |
| | | Q906 | OTR319809AA | KTC3198-TP-Y (KTC1815)KEC |
| | | Q907 | OTR120309AA | KN1203=KRC1203=KRC103M TP KEC |
| | | Q908 | OTR319809AA | KTC3198-TP-Y (KTC1815)KEC |
| | | Q909 | OTR220309AA | KN2203=KRA2203=KRA103M TP KEC |

| S | AL | LOCA. NO | PART NO(GS) | SPECIFICATION |
|------------------|----|----------|-------------|-------------------------------|
| | | Q910 | OTR120309AA | KN1203=KRC1203=KRC103M TP KEC |
| | | Q911 | OTR120309AA | KN1203=KRC1203=KRC103M TP KEC |
| | | Q912 | OTR220309AA | KN2203=KRA2203=KRA103M TP KEC |
| REMOCON RECEIVER | | | | |
| | | RC601 | 668-226A | R/C RECEIVER(KTC.H=15) 34L |
| RESISTOR | | | | |
| | | R001 | ORD1002F608 | 10K 1/6W 5 TA26 |
| | | R002 | ORD1002F608 | 10K 1/6W 5 TA26 |
| | | R003 | ORD1002F608 | 10K 1/6W 5 TA26 |
| | | R004 | ORD1002F608 | 10K 1/6W 5 TA26 |
| | | R005 | ORD1002F608 | 10K 1/6W 5 TA26 |
| | | R006 | ORD1001F608 | 1.0K 1/6W 5 TA26 |
| | | R008 | ORD5601F608 | 5.6K 1/6W 5 TA26 |
| | | R009 | ORD2201F608 | 2.2K 1/6W 5 TA26 |
| | | R010 | ORD3901F608 | 3.9K 1/6W 5 TA26 |
| | | R011 | ORD8200F608 | 820 1/6W 5 TA26 |
| | | R012 | ORD4700F608 | 470 1/6W 5 TA26 |
| | | R013 | ORD5600F608 | 560 1/6W 5 TA26 |
| | | R014 | ORD1201F608 | 1.2K 1/6W 5 TA26 |
| | | R015 | ORD3903F608 | 390K 1/6W 5 TA26 |
| | | R016 | ORD4703F608 | 470K 1/6W 5 TA26 |
| | | R017 | ORD1202F608 | 12K 1/6W 5 TA26 |
| | | R018 | ORD1002F608 | 10K 1/6W 5 TA26 |
| | | R019 | ORD1002F608 | 10K 1/6W 5 TA26 |
| | | R020 | ORD1201F608 | 1.2K 1/6W 5 TA26 |
| | | R021 | ORD2201F608 | 2.2K 1/6W 5 TA26 |
| | | R022 | ORD2201F608 | 2.2K 1/6W 5 TA26 |
| | | R023 | ORD3900F608 | 390 1/6W 5 TA26 |
| | | R024 | ORD8200F608 | 820 1/6W 5 TA26 |
| | | R025 | ORD3900F608 | 390 1/6W 5 TA26 |
| | | R026 | ORD1002F608 | 10K 1/6W 5 TA26 |
| | | R027 | ORD1002F608 | 10K 1/6W 5 TA26 |
| | | R028 | ORD1002F608 | 10K 1/6W 5 TA26 |
| | | R029 | ORD1201F608 | 1.2K 1/6W 5 TA26 |
| | | R030 | ORD1001F608 | 1.0K 1/6W 5 TA26 |
| | | R031 | ORD0752F608 | 75 1/6W 5 TA26 |
| | | R032 | ORD0752F608 | 75 1/6W 5 TA26 |
| | | R033 | ORD1000F608 | 100 1/6W 5 TA26 |
| | | R034 | ORD0822F608 | 82 1/6W 5 TA26 |
| | | R101 | ORD8200F620 | 820 1/6W 5 M5 |
| | | R102 | ORD1001F620 | 1.0K 1/6W 5 M5 |
| | | R103 | ORD1001F620 | 1.0K 1/6W 5 M5 |
| | | R105 | ORD4700F620 | 470 1/6W 5 M5 |
| | | R106 | ORD8200F620 | 820 1/6W 5 M5 |
| | | R111 | ORD1501F620 | 1.5K 1/6W 5 M5 |
| | | R112 | ORD1801F620 | 1.8K 1/6W 5 M5 |
| | | R113 | ORD1003F620 | 100K 1/6W 5 M5 |
| | | R201 | ORD1502F608 | 15K 1/6W 5 TA26 |
| | | R202 | ORD1201F608 | 1.2K 1/6W 5 TA26 |
| | | R203 | ORD1203F608 | 120K 1/6W 5 TA26 |
| | | R204 | ORD1001F608 | 1.0K 1/6W 5 TA26 |
| | | R205 | ORD1202F608 | 12K 1/6W 5 TA26 |
| | | R206 | ORD2201F608 | 2.2K 1/6W 5 TA26 |
| | | R207 | ORD1802F608 | 18K 1/6W 5 TA26 |
| | | R208 | ORD2201F608 | 2.2K 1/6W 5 TA26 |
| | | R209 | ORD2201F608 | 2.2K 1/6W 5 TA26 |
| | | R210 | ORD1502F608 | 15K 1/6W 5 TA26 |
| | | R212 | ORD2703F608 | 270K 1/6W 5 TA26 |
| | | R213 | ORD3901F608 | 3.9K 1/6W 5 TA26 |

| S | AL | LOCA. NO | PART NO(GS) | SPECIFICATION |
|---|----|----------|-------------|------------------|
| | | R214 | ORD6802F608 | 68K 1/6W 5 TA26 |
| | | R215 | ORD2702F608 | 27K 1/6W 5 TA26 |
| | | R216 | ORD8203F608 | 820K 1/6W 5 TA26 |
| | | R217 | ORD5603F608 | 560K 1/6W 5 TA26 |
| | | R218 | ORD6803F608 | 680K 1/6W 5 TA26 |
| | | R219 | ORD2702F608 | 27K 1/6W 5 TA26 |
| | | R220 | ORD4702F608 | 47K 1/6W 5 TA26 |
| | | R221 | ORD8201F608 | 8.2K 1/6W 5 TA26 |
| | | R222 | ORD1003F608 | 100K 1/6W 5 TA26 |
| | | R223 | ORD5602F608 | 56K 1/6W 5 TA26 |
| | | R224 | ORD8202F608 | 82K 1/6W 5 TA26 |
| | | R226 | ORD1503F608 | 150K 1/6W 5 TA26 |
| | | R227 | ORD5601F608 | 5.6K 1/6W 5 TA26 |
| | | R228 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R229 | ORD4700F608 | 470 1/6W 5 TA26 |
| | | R230 | ORD4700F608 | 470 1/6W 5 TA26 |
| | | R231 | ORD5601F608 | 5.6K 1/6W 5 TA26 |
| | | R232 | ORD1001F608 | 1.0K 1/6W 5 TA26 |
| | | R233 | ORD1202F608 | 12K 1/6W 5 TA26 |
| | | R234 | ORD1004F608 | 1.0M 1/6W 5 TA26 |
| | | R235 | ORD1203F608 | 120K 1/6W 5 TA26 |
| | | R236 | ORD1803F608 | 180K 1/6W 5 TA26 |
| | | R238 | ORD1001F608 | 1.0K 1/6W 5 TA26 |
| | | R239 | ORD1501F608 | 1.5K 1/6W 5 TA26 |
| | | R240 | ORD2201F608 | 2.2K 1/6W 5 TA26 |
| | | R241 | ORD6801F608 | 6.8K 1/6W 5 TA26 |
| | | R242 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R243 | ORD0101F608 | 1.0 1/6W 5 TA26 |
| | | R244 | ORD0101F608 | 1.0 1/6W 5 TA26 |
| | | R245 | ORD1801F608 | 1.8K 1/6W 5 TA26 |
| | | R246 | ORD1003F608 | 100K 1/6W 5 TA26 |
| | | R247 | ORD1002F608 | 10K 1/6W 5 TA26 |
| | | R248 | ORD5601F608 | 5.6K 1/6W 5 TA26 |
| | | R249 | ORD1001F608 | 1.0K 1/6W 5 TA26 |
| | | R250 | ORD1501F608 | 1.5K 1/6W 5 TA26 |
| | | R251 | ORD2201F608 | 2.2K 1/6W 5 TA26 |
| | | R252 | ORD2702F608 | 27K 1/6W 5 TA26 |
| | | R253 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R254 | ORD1002F608 | 10K 1/6W 5 TA26 |
| | | R301 | ORD3301F608 | 3.3K 1/6W 5 TA26 |
| | | R302 | ORD2701F608 | 2.7K 1/6W 5 TA26 |
| | | R303 | ORD1002F608 | 10K 1/6W 5 TA26 |
| | | R304 | ORD1002F608 | 10K 1/6W 5 TA26 |
| | | R305 | ORD6800F608 | 680 1/6W 5 TA26 |
| | | R308 | ORD1001F608 | 1.0K 1/6W 5 TA26 |
| | | R309 | ORD1002F608 | 10K 1/6W 5 TA26 |
| | | R310 | ORD1002F608 | 10K 1/6W 5 TA26 |
| | | R311 | ORD3901F608 | 3.9K 1/6W 5 TA26 |
| | | R312 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R313 | ORD5601F608 | 5.6K 1/6W 5 TA26 |
| | | R314 | ORD1002F608 | 10K 1/6W 5 TA26 |
| | | R315 | ORD8200F608 | 820 1/6W 5 TA26 |
| | | R316 | ORD1001F608 | 1.0K 1/6W 5 TA26 |
| | | R317 | ORD2700F608 | 270 1/6W 5 TA26 |
| | | R318 | ORD2201F608 | 2.2K 1/6W 5 TA26 |
| | | R319 | ORD3900F608 | 390 1/6W 5 TA26 |
| | | R320 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R321 | ORD3301F608 | 3.3K 1/6W 5 TA26 |
| | | R323 | ORD3300F608 | 330 1/6W 5 TA26 |
| | | R324 | ORD0752F608 | 75 1/6W 5 TA26 |
| | | R325 | ORD2700F608 | 270 1/6W 5 TA26 |
| | | R326 | ORD3300F608 | 330 1/6W 5 TA26 |
| | | R327 | ORD3900F608 | 390 1/6W 5 TA26 |
| | | R328 | ORD4702F608 | 47K 1/6W 5 TA26 |

| S | AL | LOCA. NO | PART NO(GS) | SPECIFICATION |
|---|----|----------|-------------|------------------|
| | | R329 | ORD1802F608 | 18K 1/6W 5 TA26 |
| | | R330 | ORD1001F608 | 1.0K 1/6W 5 TA26 |
| | | R331 | ORD1001F608 | 1.0K 1/6W 5 TA26 |
| | | R332 | ORD1001F608 | 1.0K 1/6W 5 TA26 |
| | | R333 | ORD1503F608 | 150K 1/6W 5 TA26 |
| | | R334 | ORD0182F608 | 18 1/6W 5 TA26 |
| | | R335 | ORD2201F608 | 2.2K 1/6W 5 TA26 |
| | | R336 | ORD1001F608 | 1.0K 1/6W 5 TA26 |
| | | R337 | ORD2202F608 | 22K 1/6W 5 TA26 |
| | | R338 | ORD3900F608 | 390 1/6W 5 TA26 |
| | | R339 | ORD0682F608 | 68 1/6W 5 TA26 |
| | | R340 | ORD1201F608 | 1.2K 1/6W 5 TA26 |
| | | R342 | ORD1001F608 | 1.0K 1/6W 5 TA26 |
| | | R343 | ORD4700F608 | 470 1/6W 5 TA26 |
| | | R344 | ORD2200F608 | 220 1/6W 5 TA26 |
| | | R345 | ORD1001F608 | 1.0K 1/6W 5 TA26 |
| | | R346 | ORD5601F608 | 5.6K 1/6W 5 TA26 |
| | | R347 | ORD2201F608 | 2.2K 1/6W 5 TA26 |
| | | R4001 | ORD0102F608 | 10 1/6W 5 TA26 |
| | | R4L1 | ORD3900F608 | 390 1/6W 5 TA26 |
| | | R402 | ORD3303F608 | 330K 1/6W 5 TA26 |
| | | R403 | ORD1202F608 | 12K 1/6W 5 TA26 |
| | | R404 | ORD3902F608 | 39K 1/6W 5 TA26 |
| | | R405 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R406 | ORD5603F608 | 560K 1/6W 5 TA26 |
| | | R407 | ORD2702F608 | 27K 1/6W 5 TA26 |
| | | R408 | ORD5602F608 | 56K 1/6W 5 TA26 |
| | | R409 | ORD1002F608 | 10K 1/6W 5 TA26 |
| | | R410 | ORD2702F608 | 27K 1/6W 5 TA26 |
| | | R411 | ORD5600F608 | 560 1/6W 5 TA26 |
| | | R413 | ORD2201F608 | 2.2K 1/6W 5 TA26 |
| | | R414 | ORD1502F608 | 15K 1/6W 5 TA26 |
| | | R415 | ORD2201F608 | 2.2K 1/6W 5 TA26 |
| | | R416 | ORD5601F608 | 5.6K 1/6W 5 TA26 |
| | | R417 | ORD4702F608 | 47K 1/6W 5 TA26 |
| | | R418 | ORD4702F608 | 47K 1/6W 5 TA26 |
| | | R419 | ORD6800F608 | 680 1/6W 5 TA26 |
| | | R420 | ORD1801F608 | 1.8K 1/6W 5 TA26 |
| | | R421 | ORD1200F608 | 120 1/6W 5 TA26 |
| | | R422 | ORD8200F608 | 820 1/6W 5 TA26 |
| | | R423 | ORD2200F608 | 220 1/6W 5 TA26 |
| | | R424 | ORD2201F608 | 2.2K 1/6W 5 TA26 |
| | | R425 | ORD2201F608 | 2.2K 1/6W 5 TA26 |
| | | R426 | ORD0472F608 | 47 1/6W 5 TA26 |
| | | R427 | ORD0102F608 | 10 1/6W 5 TA26 |
| | | R428 | ORD0102F608 | 10 1/6W 5 TA26 |
| | | R429 | ORD2702F608 | 27K 1/6W 5 TA26 |
| | | R433 | ORD1500F608 | 150 1/6W 5 TA26 |
| | | R501 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R502 | ORD1802F608 | 18K 1/6W 5 TA26 |
| | | R503 | ORD1002F608 | 10K 1/6W 5 TA26 |
| | | R504 | ORD1002F608 | 10K 1/6W 5 TA26 |
| | | R505 | ORD1003F608 | 100K 1/6W 5 TA26 |
| | | R506 | ORD1003F608 | 100K 1/6W 5 TA26 |
| | | R507 | ORD1003F608 | 100K 1/6W 5 TA26 |
| | | R508 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R509 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R510 | ORD1003F608 | 100K 1/6W 5 TA26 |
| | | R511 | ORD1003F608 | 100K 1/6W 5 TA26 |
| | | R512 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R513 | ORD1802F608 | 18K 1/6W 5 TA26 |
| | | R514 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R515 | ORD1004F608 | 1.0M 1/6W 5 TA26 |
| | | R516 | ORD4701F608 | 4.7K 1/6W 5 TA26 |

| S | AL | LOCA. NO | PART NO(GS) | SPECIFICATION |
|---|----|----------|-------------|------------------|
| | | R517 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R518 | OPD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R519 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R520 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R521 | OPD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R522 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R523 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R524 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R525 | OPD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R526 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R527 | OPD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R528 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R529 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R530 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R531 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R532 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R533 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R534 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R535 | ORD4700F608 | 470 1/6W 5 TA26 |
| | | R536 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R537 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R538 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R539 | OPD2201F608 | 2.2K 1/6W 5 TA26 |
| | | R540 | OPD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R541 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R542 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R601 | OPD1004F608 | 1.0M 1/6W 5 TA26 |
| | | R602 | ORD1002F608 | 10K 1/6W 5 TA26 |
| | | R603 | ORD4704F608 | 4.7M 1/6W 5 TA26 |
| | | R604 | ORD6802F608 | 68K 1/6W 5 TA26 |
| | | R605 | ORD6802F608 | 68K 1/6W 5 TA26 |
| | | R606 | ORD6802F608 | 68K 1/6W 5 TA26 |
| | | R607 | ORD6802F608 | 68K 1/6W 5 TA26 |
| | | R608 | ORD4700F608 | 470 1/6W 5 TA26 |
| | | R609 | ORD1000F608 | 100 1/6W 5 TA26 |
| | | R610 | ORD1002F608 | 10K 1/6W 5 TA26 |
| | | R612 | ORD1002F608 | 10K 1/6W 5 TA26 |
| | | R613 | ORD1002F608 | 10K 1/6W 5 TA26 |
| | | R616 | ORD1002F608 | 10K 1/6W 5 TA26 |
| | | R618 | ORD1002F608 | 10K 1/6W 5 TA26 |
| | | R619 | ORD1002F608 | 10K 1/6W 5 TA26 |
| | | R620 | ORD1001F608 | 1.0K 1/6W 5 TA26 |
| | | R621 | ORD1001F608 | 1.0K 1/6W 5 TA26 |
| | | R622 | ORD1001F608 | 1.0K 1/6W 5 TA26 |
| | | R701 | ORD0822F608 | 82 1/6W 5 TA26 |
| | | R702 | ORD2201F608 | 2.2K 1/6W 5 TA26 |
| | | R703 | ORD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R704 | ORD1201F608 | 1.2K 1/6W 5 TA26 |
| | | R705 | ORD5600F608 | 560 1/6W 5 TA26 |
| | | R706 | OPD0682F608 | 68 1/6W 5 TA26 |
| | | R707 | ORD3301F608 | 3.3K 1/6W 5 TA26 |
| | | R708 | ORD2700F608 | 270 1/6W 5 TA26 |
| | | R709 | ORD3300F608 | 330 1/6W 5 TA26 |
| | | R710 | ORD2201F608 | 2.2K 1/6W 5 TA26 |
| | | R711 | OPD4701F608 | 4.7K 1/6W 5 TA26 |
| | | R712 | ORD1502F608 | 15K 1/6W 5 TA26 |
| | | R713 | ORD6801F608 | 6.8K 1/6W 5 TA26 |
| | | R714 | ORD5601F608 | 5.6K 1/6W 5 TA26 |
| | | R715 | ORD8200F608 | 820 1/6W 5 TA26 |
| | | R716 | ORD3300F608 | 330 1/6W 5 TA26 |
| | | R717 | OPD2200F608 | 220 1/6W 5 TA26 |
| | | R718 | ORD1801F608 | 1.8K 1/6W 5 TA26 |
| | | R719 | ORD2701F608 | 2.7K 1/6W 5 TA26 |

| S | AL | LOCA. NO | PART NO(GS) | SPECIFICATION |
|---|----|----------|-------------|------------------|
| | | R720 | ORD1500F608 | 150 1/6W 5 TA26 |
| | | R721 | ORD2200F608 | 220 1/6W 5 TA26 |
| | | R722 | ORD2200F608 | 220 1/6W 5 TA26 |
| | | R723 | ORD5601F608 | 5.6K 1/6W 5 TA26 |
| | | R724 | ORD1001F608 | 1.0K 1/6W 5 TA26 |
| | | R725 | ORD1000F608 | 100 1/6W 5 TA26 |
| | | R726 | ORD2202F608 | 22K 1/6W 5 TA26 |
| | | R727 | ORD1203F608 | 120K 1/6W 5 TA26 |
| | | R728 | ORD5601F608 | 5.6K 1/6W 5 TA26 |
| | | R729 | ORD1203F608 | 120K 1/6W 5 TA26 |
| | | R730 | ORD5601F608 | 5.6K 1/6W 5 TA26 |
| | | R734 | ORD5601F608 | 5.6K 1/6W 5 TA26 |
| | | R735 | ORD5601F608 | 5.6K 1/6W 5 TA26 |
| | | R736 | ORD5601F608 | 5.6K 1/6W 5 TA26 |
| | | R751 | OPD5601F608 | 5.6K 1/6W 5 TA26 |
| | | R901 | ORD3301F608 | 3.3K 1/6W 5 TA26 |
| | | R902 | ORD3301F608 | 3.3K 1/6W 5 TA26 |
| | | R903 | ORD5601F608 | 5.6K 1/6W 5 TA26 |
| | | R904 | ORD1001F608 | 1.0K 1/6W 5 TA26 |
| | | R908 | ORD1002F608 | 10K 1/6W 5 TA26 |
| | | R909 | ORD3301F608 | 3.3K 1/6W 5 TA26 |
| | | R910 | ORD1802F608 | 18K 1/6W 5 TA26 |
| | | R911 | ORD1001F608 | 1.0K 1/6W 5 TA26 |
| | | R912 | ORD1001F608 | 1.0K 1/6W 5 TA26 |
| | | R913 | ORD5601F608 | 5.6K 1/6W 5 TA26 |
| | | R914 | ORD3302F608 | 33K 1/6W 5 TA26 |
| | | R915 | ORD1001F608 | 1.0K 1/6W 5 TA26 |
| | | R916 | ORD1202F608 | 12K 1/6W 5 TA26 |
| | | R917 | ORD3900F608 | 390 1/6W 5 TA26 |
| | | R918 | ORD3302F608 | 33K 1/6W 5 TA26 |
| | | R919 | ORD5603F608 | 560K 1/6W 5 TA26 |
| | | R920 | ORD1501F608 | 1.5K 1/6W 5 TA26 |
| | | R921 | ORD5602F608 | 56K 1/6W 5 TA26 |
| | | R922 | ORD1002F608 | 10K 1/ |

| S | AL | LOCA. NO | PART NO(GS) | SPECIFICATION |
|-------------------|----|----------|-------------|-------------------------------|
| | | SW613 | 556-148A | TACT KPT-1105BP (H=9.5) |
| | | SW614 | 556-148A | TACT KPT-1105BP (H=9.5) |
| | | SW615 | 556-148A | TACT KPT-1105BP (H=9.5) |
| | | SW616 | 556-148A | TACT KPT-1105BP (H=9.5) |
| | | SW617 | 556-148A | TACT KPT-1105BP (H=9.5) |
| | | SW618 | 556-148A | TACT KPT-1105BP (H=9.5) |
| | | SW619 | 556-148A | TACT KPT-1105BP (H=9.5) |
| | | SW622 | 556-148A | TACT KPT-1105BP (H=9.5) |
| | | SW623 | 556-148A | TACT KPT-1105BP (H=9.5) |
| | | SW624 | 556-148A | TACT KPT-1105BP (H=9.5) |
| | | SW625 | 556-148A | TACT KPT-1105BP (H=9.5) |
| | | SW626 | 556-148A | TACT KPT-1105BP (H=9.5) |
| | | SW630 | 556-023K | SLIDE SSJ-822 (L=12) |
| | | SW631 | 556-023K | SLIDE SSJ-822 (L=12) |
| TUNER | | | | |
| | | TU701 | 521-402A | ENV-5786263 FS/PLL HYPER MATS |
| VARIABLE RESISTOR | | | | |
| | OR | VR201 | 613-028J | EVN-D4AA001B15 (100K) |
| | | VR301 | 613-0247 | RH0615C-102B 0.1W GAE |
| | | VR301 | 613-0287 | EVN-D4AA001B13 (1K) |
| | OR | VR302 | 613-024D | RH0615C-103B 0.1W GAE |
| | | VR302 | 613-028D | EVN-D4AA001B14 (10K) |
| | | VR303 | 613-0247 | RH0615C-102B 0.1W GAE |
| | OR | VR303 | 613-0287 | EVN-D4AA001B13 (1K) |
| | | VR401 | 613-028F | EVN-D4AA001BE4 (22K) |
| | | VR402 | 613-028L | EVN-D4AA001BE5 (220K) |
| | | VR601 | 611-012G | VR. ROTARY RK09K113-20KB(FLAT |
| | | VR701 | 613-028G | EVN-D4AA001BY4 (33K) |
| | | VR901 | 613-028G | EVN-D4AA001BY4 (33K) |

| S | AL | LOCA. NO | PART NO(GS) | SPECIFICATION |
|-------------|----|----------|-------------|-------------------------------|
| CRYSTAL | | | | |
| | | X301 | 616-323A | SFE4.25MBF (MURATA) |
| | | X501 | 618-013B | CST6.0MGW-TF01S TAPING MURATA |
| | | X601 | 529-018A | CERAMIC RESONATOR-4.0MHZ C=30 |
| | | X602 | 529-001A | 32.768KHZ |
| | | X901 | 529-020K | 17.734476MHZ 30PPM NO-TU L=4. |
| | | X902 | 529-019A | CSB500F-9 MURATA |
| ZENER DIODE | | | | |
| | | ZD101 | 0DZ130000BA | UZ-13BH UNIZON |
| | | ZD103 | 0DZ160009AB | UZ-16 BL 0.5W TP |
| | | ZD104 | 0DZ130009CC | UZ-13BL 0.5W TP |
| | | ZD106 | 0DZ330009AB | MTZ-33C TP |
| | | ZD107 | 0DZ330009AB | MTZ-33C TP |
| | | ZD108 | 0DZ560009CA | MTZ5.6B TP ROHM-K |
| | | ZD501 | 0DZ820009BB | UZ8.2BSC 5M/M TP UNIZON |
| | | ZD502 | 0DZ100009AA | MTZ10B MINI TP ROHM-K |
| | | ZD503 | 0DZ100009AA | MTZ10B MINI TP ROHM-K |